WILD PLANTS OF QATAR

ARAB ORGANISATION
FOR
AGRICULTURAL DEVELOPMENT





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FOREWORD

The Arab Organization for Agricultural Development takes great pleasure in presenting this book "Wild Plants of Qatar" which is prepared as a result of a request by the Ministry of Industry and Agriculture of the State of Qatar. The Arab Organisation for Agricultural Development worked in close association and co-ordination with the concerned authorities in Qatar to make this document a reality. It is noteworthy that an important objective of the Arab Organisation for Agriculture Development is to work in harmony with Arab States to bring to light the scope and extent of natural wealth related to agricultural environments with full realization of the potential for their utilization and conservation in centuries to come. In this context full knowledge of natural weed flora of Qatar is an endeavour in the right direction.

The book is a comprehensive study of the flora from all over the country based on sound up-to-date scientific information. The plants have been classified into families, genera and species. Local and scientific Latin names have also been included. It is expected in this respect that this book will help a great deal in stimulating the interest of our research scientists and academicians.

Special thanks are due to His Excellency El Sheikh Faisal Ben Thani Al Thani, Minister of Industry and Agriculture, State of Qatar and Under Secretary Abdul Rahman El Mani and his assistants for their sustained enthusiasm and unfailing help which contributed to this achievement.

Special thanks are also due to Dr. Hamza Mohamed El Amin of the Forestry Research Unit of the Democratic Republic of the Sudan for taking the arduous task of collecting, preserving, describing, classifying the flora and preparing the manuscript.

Finally the help of the scientific and technical staff of the Herbarium of the Royal Botanic Garden, Kew, is cordially acknowledged.

May God Almighty guide our efforts towards the betterment of our people in the Arab World.

Dr. Hassan Fahmi Jumah
Director General
Arab Organisation for Agricultural Development

بسم الله الرحمن الرحيم

مقدمة بقلم
الأستاذ المهندس أحمد عبد الرحمن المانع
وكيل وزارة الصناعة والزراعة

يسرني أن يصدر هذا الكتاب « النباتات البرية بدولة قطر » وقد تضمن حصراً شاملاً لمعظم النباتات البرية في قطر ، وقد تم عرضها طبقاً للأسس العلمية المتعارف عليها فقسمت إلى أنواع وأجناس وعائلات نباتية ، ووضعت الأسماء المحلية لها جنباً إلى جنب مع الأسماء العلمية وذلك لتسهيل التعرف عليها .

ونأمل أن تشكل هذه الدراسة مادة أساسية تفتح المجال مستقبلاً للمزيد من الأبحاث عن تلك النباتات لاستكمال الجهد الذي كانت الوزارة قد بدأته .

وأنتهز هذه الفرصة لتوجيه الشكر للمنظمة العربية للتنمية الزراعية وخبيرها السيد الدكتور حمزة محمد الأمين لما قام به من جهد دؤوب لانجاز هذه المهمة .

ويسر وزارة الصناعة والزراعة أن تتلقى كافة الملاحظات من جميع المعنين بدراسة النباتات البرية في دولة قطر ، فاننا وان كنا نبتغي الكمال فاننا لا ندعيه فالكمال لله وحده .

وفقنا الله جميعاً لخدمة وطننا الحبيب في ظل رعاية وتوجيه حضرة صاحب السمو الشيخ خليفة بن حمد آل ثاني أمير البلاد المفدى وسمو ولي عهده الأمير الشيخ حمد بن خليفة آل ثاني .

أحمد عبد الرحمن المانع
وكيل وزارة الصناعة والزراعة

INTRODUCTION

This study has been initiated, planned and executed by the Arab Organization for Agricultural Development with the full cooperation of the Ministry of Industry and Agriculture of the State of Qatar. The objective of the study is to write a book on the "Wild Plants of Qatar", aiming towards a better understanding of the natural resources of the country.

The expert entrusted to perform this function arrived in Qatar in March, 1982 and stayed until the end of May, 1982. During this period many field trips have been conducted all over the country to collect plants and preserve them in herbarium sheets. The expert was accompanied by a local guide who has wide knowledge of the country's roads and wild plants and was able to cover vast areas as far south as Abu Samra and Um Saeed, northwards to El Ruwais, eastwards to El Khor and Shafulahia and westwards to Umm Bab and Dukhan, in addition to many visits to the central rodat areas.

Over a thousand specimens of plants have been collected from the different localities in the country. A full description of plants was done in the field together with taking coloured photographs of these plants and collection of information of their local names and uses. The collected specimens were sorted out into three duplicates. One copy was kept at the newly established herbarium at Doha, the second at the Arab Organization for Agricultural Development Khartoum and the third copy was taken to the Herbarium of the Royal Botanic Garden, Kew, to confirm the identification of the collected plants.

The information on Qatar flora is scarce. At the time of plant collection by the writer, very few references were available on these wild plants. Most of the available literature is concerned with the neighbouring countries. (Obeid 1975) made a special study of the ecology and flora of Qatar and his collections were studied by the expert at Khartoum University Herbarium and at Doha Herbarium at the Ministry of Industry and Agriculture. The specimens collected by Obeid (1975) were identified by the Late V. Tackholm in the University of Cairo Herbarium. At the time of writing this book, a study of the ecology and flora of Qatar appeared by Batanouny and this was a great help in identifying some of the critical species collected by the author. At Kew Herbarium, London, the study of Qatar collections by C. Wilcox (1971), and Boulos (1978) was fully consulted in addition to the many floral references of the Gulf states. Great help was also found in the flora of Saudi Arabia, Iraq, Iran and Egypt, in addition to various literature at Kew Herbarium Library.

This book included 297 species in the 154 genera and 58 families. Due to the favourable rainy season during the time of collection, new species were collected for the first time in Qatar. Two families namely Ranunculaceae and Linaceae were added to the list. Re-arrangement of some families was conducted as regards including Mesembryanthemum species under Aizoaceae, Cleomaceae under Capparidaceae and separating Illece braceae from Caryophyllaceae.

The text includes many corrections and changes of names of some plants due to previous misidentifications or to new changes in nomenclature at Kew Herbarium.

Due to the comparatively small number of the studied taxa, the plants are arranged in the alphabetical order of families. The genera and species are also arranged.

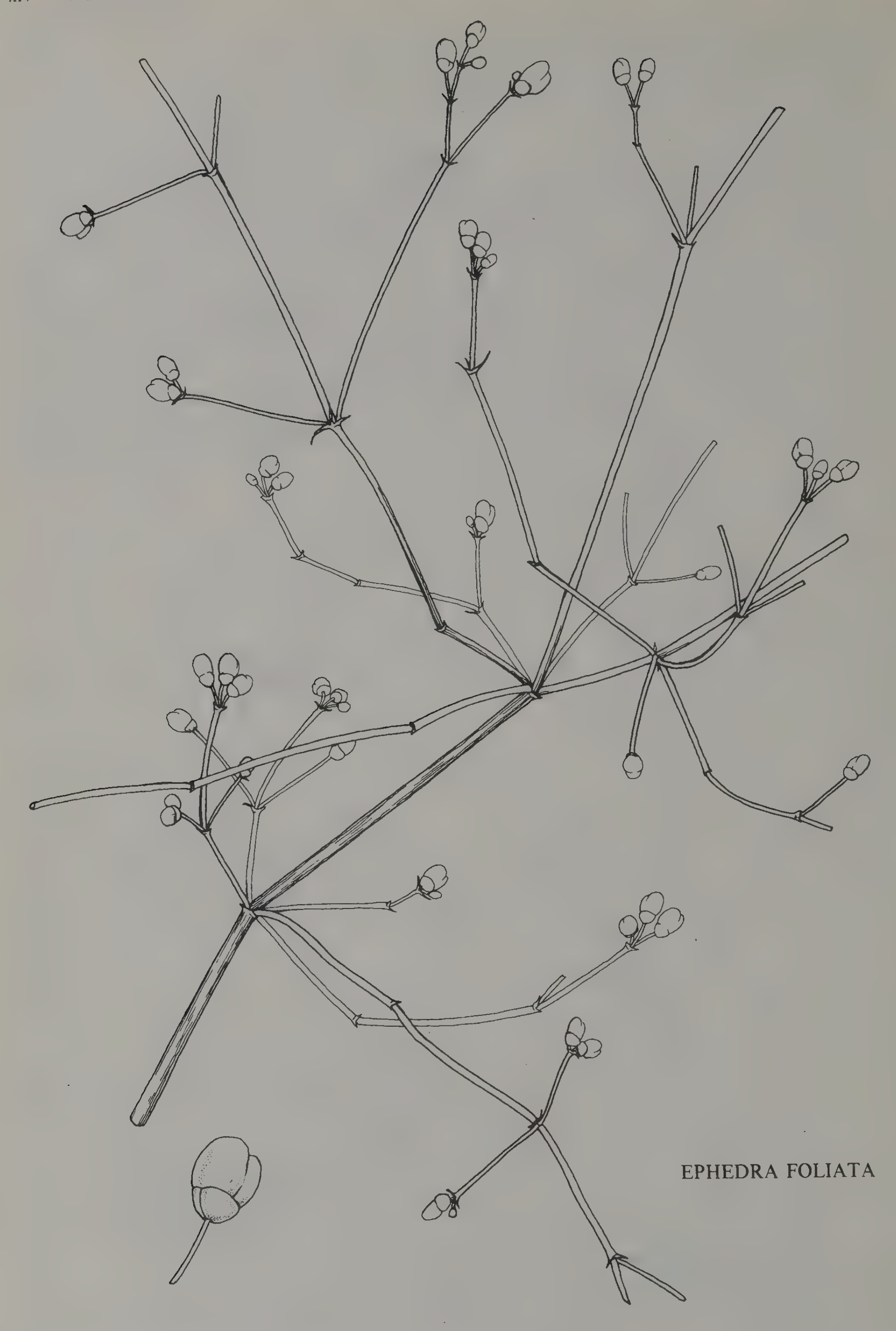
alphabetically within the family. This alphabetical arrangement is thought to be more convenient for the reader than phylogenetical arrangement. The book is divided into Gymnosperms (with one species) and Angiosperms. This is further sub-divided into Dicotyledons and Monocotyledons.

The species are described firstly by giving the Latin and local (vernacular) names. Synonyms are mentioned whenever is appropriate. A brief botanical description follows which also separates species if more than one is included in a genus. This is followed by notes on the flowering time, habitat, distribution in Qatar and the available information on the plants' uses and functions.

Line illustrations together with some coloured plates are added to the text. A bibliography of relevant references is included at the end of the text, together with an index of local (vernacular) names in Arabic with their equivalent Latin names.

This study is by no means conclusive, however, it is aimed to give the reader general basic information on the wild plants of Qatar, hoping that this will stimulate future comprehensive studies on the plants to achieve a better understanding and assessment of the natural resources of Qatar.


ARABIAN GULF
RUWAIS
ZUBARAH
RODIAT EL_FARAS
KHOR
JAMALIYA
OTORIYAH
ZEKRIYAT
DUKHAN
QATAR
DOHA
UMM BAB
KARANAH
UMM SAID
KHARARAH
ABU SAMRA
SALWA
SAUD A NATHIL
0 10 20 30 40 50
Km
MAP OF QATAR



EPHEDRA FOLIATA

GYMNOSPERMAE

EPHEDRACEAE

Ephedra L.

Ephedra foliata Boiss. & K., ex C. A. Mey.; Versuch. Monog. Ephedra, in Mem. Acad. Imp. Sc. Persb. 4:107 (1846).

Syn: E. ciliata. C. A. Mey.

Arabic: Alada.

Woody, climbing perennial shrub, 3 m or more. Branches slender, green, flexible. Older ones brown woody, younger branches sometimes whorled. Leaves small, filiform, opposite, in twos, arising from a yellow-brown sheath on branches. Leaf variable in size, 20–40 mm. Flowers dioecious. Male cones at tips of green branches, 1-3 flowered on 1–3 cm long pedicels, enclosed in green-pinkish bracts. Female flowers on tips of slender branches on 2–3 cm long pedicels, green-reddish, 0.6 cm diameter, enclosed in reddish bracts. Seeds brown, ellipsoid, naked on a berry-like fruit, green-reddish in colour, enclosed within the fleshy bracts, producing two cotyledons when germinating.

Flowering: April–May.

Habitat: On sandy soils under Ziziphus or Acacia trees.

Distribution: Central Qatar; El Gisseira, Shahania.

Uses: Grazed by animals. The crushed and boiled plant is used for tanning.

Remarks: This is the only species in the Gymnosperms which is represented in Qatar.

ANGIOSPERMAE

DICOTYLEDONAE

ACANTHACEAE

Blepharis A. Juss.

Blepharis ciliaris B. L. Burtt., Tackh., Stud. Fl. Egypt, ed. 2, 502 (1974).

Arabic: Sheyoukh, Shoak el Dhab, Begheil.

Perennial spiny herb, 10–15 cm high. Stem thickened with many ascending branches. Leaves sessile, alternate, closely arranged on branches, pale green, lanceolate, 5 x 2.5 cm, apex spiny, base cuneate, margin spiny dentate (3-4 spines on each side). Inflorescence axillary spikes. Flowers bluish. Calyx 4-lobed, the upper and lower sepals exterior, larger, the laterals interior and small. Corolla 3-lobed, cup shaped with a small tooth on each side, mauve, veined in purple. Fruit a capsule, flattened, ovate, 1 cm long.

Flowering: March–April.

Habitat: On gravelly and stony grounds.

Distribution: Shahania to Dukhan.

Uses: Grazed by camels but not sheep or goats.

Hygrophila R. Br.

Hygrophila auriculata (Schum.) Heine. in Kew Bull. 161: 172 (1962).

Syn: Asteracantha longifolia Nees.

Erect annual herb 80–100 cm high. Stem pale green tinged reddish, quadrangular, white hairy especially near nodes. Leaves opposite, linear-oblong, 10–30 x 1–2 cm, white hairy especially at lower 1/3, sessile, acute, cuneate, entire, midrib white, prominent. Flowers axillary crowded clusters, surrounded by 6-8 reddish-yellow spines 2 cm long. Bracts and calyx pale green tinged with red, hairy. Corolla white at base, violet above; limb violet with orange spots. Anthers purple.

Flowering: April–May.

Habitat: Sandy depressions.

Distribution: South west Qatar, Um Bab.

Uses: Grazed by camels.

AIZOACEAE

(FICOIDACEAE)

Aizoon L.

Aizoon canariense L., Sp. Pl. 1. 488 (1753).

Syn: Glinus crystallinus.

Arabic: Gafna, Shafna.

Flat woody herb with procumbent branches. Branches papillose villous, whitish-green, zigzag. Leaves alternate, fleshy, obovate, spathulate with different sizes, 2–3 x 1.5 cm, obtuse to acute, cuneate, entire, pubescent. Salt crystals appear on underside. Flowers hard and spiky, reddish green, 3 mm broad, axillary, sessile on branches. Calyx tube turbinate or hemi-spherical, green-yellow. Corolla yellow-green, 5-lobed. Stamens 5, alternate with calyx lobes. Fruit a capsule, surrounded by the persistent calyx, opening by a star shaped 5-limbed fissure, purplish tinged, many seeded.

Flowering: March–April.

Habitat: On compact depressions and runnels.

Distribution: Common in Qatar, Northern farm, Shahania.

Uses: Eaten by camels and the leaves are eaten by man as a salad.

A. hispanicum *L., Sp. Pl. 1. 700 (1753).*

Arabic: Melih.

Erect herb with succulent papillose branches 25 cm high. Leaves alternate, succulent, sessile, oblong-lanceolate, 4–6 x 1.5 cm, apex rounded, base cuneate, glabrous. Flowers pale green, pedicellate, solitary, star shaped, axillary. Calyx 5-lobed, lanceolate, 1.5 cm long, white within. Corolla 5-lobed, white, tinged green at base. Stamens 5. Styles 5. Ovary superior with 5 wings. Fruit capsule many seeded.

Flowering: March–May.

Habitat: On coarse gravel on runnels, sandy depressions.

Distribution: Central Qatar, Um Ghain.

Uses: Camels eat it instead of Hamd, also grazed by sheep.

Mesembryanthemum L.

Mesembryanthemum forskahlei Hochst. in Schimp., Pl. Arab. Exs., 2 (1832).

Arabic: Samh.

Annual fleshy herb 15–20 cm long. Branches erect, pubescent, dichotomously branched. Leaves opposite, fleshy, subterete, oblong 5 x 1 cm, obtuse, base clasping. Flower solitary, terminal at centre of stem. Calyx 5 lobed, green, subequal. Fruit 5-lobed capsule opening valves hygroscopically.

Flowering: April.

Habitat: Sandy saline soils.

Distribution: Central Qatar.

Uses: Grazed by animals.

M. nudiflorum *L. Sp. Pl. 1, 480 (1753).*

Small annual herb, 10–20 cm long, branching dichotomously. Leaves whorled, oblong, semiterete, 1 x 0.1 cm, purplish when maturing, obtuse, base ciliate, entire. Branches and leaves pubescent. Flowers white, axillary and terminal, subsessile. Calyx 5-lobed, lacinate, filiform. Corolla white, 5-lobed. Fruit capsule, pentagonal with a depressed apex, opening by star shaped split, 1 cm wide.

Flowering: April.

Habitat: Edges of cultivated fields.

Distribution: Central Qatar.

Uses: Grazed by animals.

AMARANTHACEAE

Aerva Forssk.

Aerva javanica (Burm. f.) Spreng., Syst. Veg. 1: 815 (1825).

Arabic: El Rawa, Tarf, Twaim.

Woody perennial up to 1 m high. Stems hoary-white, velvety. Leaves alternate, sessile, elliptic, oblanceolate to obovate, 5 x 2 cm, apex acute, base cuneate, velvety hairy. Venation apparent below, green grey. Flowers white in a terminal panicle of dense woolly leafless long cylindric spikes, about 5 cm long. Flowers with 3 bracts. Sepals 5, hairy. Fruit 1-seeded.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Central Qatar at Karaana, Shahania.

Uses: Used for stuffing pillows and animal saddles. It is also eaten by sheep.

Amaranthus L.

Amaranthus chlorostachys Willd. Hist. Amaranth, 34, t. 10 f. 19 (1790).

Arabic: Rowaf.

Annual erect herb 30-90 cm high. Stem striate, much branched. Leaves alternate, ovate, 6 x 5 cm., apex acute, base cuneate, venation prominent. Flowers in green spikes, sometimes with reddish tinge, terminal with few axillary, 0.6 cm long. Calyx bristly. Bracts ovate, spine tipped. Calyx 5-lobed. Fruit thin, circumsessile.

Flowering: March–April.

Habitat: On wet irrigated soils in cultivated fields.

Distribution: Cultivated fields in central Qatar. In Doha gardens.

Uses: Grazed by animals.

A. gracizans L., Sp. Pl., ed. 1, 990 (1753).

Much branched annual herb, 30–40 cm high. Stems green, striate. Leaves alternate, smaller than above, lanceolate to elliptic, 5 x 1–2 cm, paler below, apex acute to rounded, base cuneate. Petiole 2–3 cm long, venation prominent. Flowers clustered on the leaf axils, more dense than in the previous species, green with reddish tinge. Calyx 3-lobed. Fruit rugose. Seeds black, shiny, 1 mm in diameter.

Flowering: March–April.

Habitat: A plant of cultivated grounds.

Distribution: Found in fields, gardens and houses.

Uses: Grazed by animals.

A. viridis L., Sp. Pl., ed. 2, 2: 1405 (1763).

Annual erect herb 50–90 cm high. Stems greenish pink, striate. Leaves alternate, ovate or elliptic, 3–6 x 2–4 cm, obtuse, cuneate, entire; petiole up to 6 cm long. Venation prominent. Flowers in terminal spikes, the apical is longest, 10 cm long, green with a pink tinge, towards ends of branches. Fruit as long as perianth, wrinkled. Seeds black and shiny.

Flowering: March–April.

Habitat: On moist cultivated soils.

Distribution: On lawns, houses, gardens at Doha and central rodat of Qatar.

Uses: Grazed by animals.

ASCLEPIADACEAE

Glossonema edule N. E. Br. Kew. Bull. 183 (1895).

Arabic: Atra, Garw, Kerbish, Loz El Nabi.

A small prostrate spreading herb 30 cms high. Stem tomentose with milky latex. Leaves opposite, grey green, 2–4 x 2 cm, ovate-lanceolate, pubescent beneath, margin undulate, surface rough, green above, grey green below. Flowers yellow-brown in sessile cymes, axillary. Pedicel 1 cm long. Calyx 5. Corolla 5, fleshy. Fruits in follicles, lanceolate, acuminate pubescent with spines which grow on the underside of the plant and become buried in the sand.

Flowering: March–April.

Habitat: On sandy soils on slopes of hills.

Distribution: Common, especially in southern Qatar.

Uses: Fruit edible, eaten by man and his animals. The whole plant is good fodder.

Leptadenia R.Br.

Leptadenia pyrotechnica (Forssk.) Decne., in Ann. Sci. Nat. Ser. 2, 9: 270 (1838).

Syn: L. spartium Wight.

Arabic: Markh.

Perennial leafless shrub 1–2 m high. Stem and branches green ending with thin tapering shoots. Leaves small tiny or absent. Flowers pale yellow-green, sessile, pendulous in sessile, sub-axillary umbels. Calyx 5, corolla 5, woolly. Follicles white-grey, thick, terete, attenuate into a beak, 8–10 x 0.6 cm.

Flowering: March–April.

Habitat: On sand dunes.

Distribution: Southern Qatar, Salwa, Wadi El Ineig.

Uses: The plant is much liked by camels, also used as firewood and sand stabilizer.

AVICENNIACEAE

(VERBENACEAE)

Avicennia L.

Avicennia marina (Forssk.) Vierh. Tackl., Stud. Fl. Egypt. ed. 2, 454 (1974).

Syn: A. officinalis L. Sp. Pl. ed. 1, 110 (1753).

Arabic: Gurm.

Mangrove shrub or small tree 1–3 m high. Stems green, soft, glabrous with aerial roots appearing above water level. Leaves opposite, leathery, elliptic 4–6 x 3 cm, cuneate, glossy, glabrous, grey underneath, densely tomentose beneath. Flowers small, yellow on short capitate cymes in terminal axillary globose heads. Fruit capsule dehiscing by 2 valves, ovoid 2–5 cm long.

Flowering: March.

Habitat: On muddy flats of shallow water along sea coasts.

Distribution: Along the sea coasts around Qatar.

Uses: The plant is eaten by camels and goats. It reduces the erosion on the coasts. The mud collected around the bushes is used as a mortar for local buildings. Elsewhere it is used for firewood.

BORAGINACEAE

Arnebia Forssk.

Arnebia decumbens (Vent.) Coss. et Kral. in Bull. Soc. Bot. Fr. 4 (1857).

Arabic: Kahal.

Erect annual herb, 20 cm high. Branches whitish, erect, hispid. Leaves alternate, oblanceolate, oblong, 3–6 x 0.4 cm, obtuse cuneate, entire densely hispid. Flowers axillary on terminal branches. Calyx 0.5 cm long, linear to filiform, hispid. Corolla yellow, tubular. Fruit covered by prickly base of calyx.

Flowering: March–April.

Habitat: Saline sandy soils.

Distribution: Western and south western Qatar, Salwa, Jebel Duckan.

Uses: The Bedouin ladies use the deep red root as a 'rouge'. Camels graze on it.

A. hispidissima (Spreng.) DC., Prodr. 10: 94 (1846).

Arabic: Melleih.

Perennial herb 20–30 cm high, densely hispid with white tubercled hairs all over the stems and leaves. Root woody, dark red, blood colour. Leaves sessile, alternate, lanceolate to oblong 2–7 x 1–1.5 cm, apex acute to rounded, base cuneate, margin entire, densely bristly. Racemes one sided, axillary. Flowers yellow or pale violet. Calyx 5-lobed densely bristly. Corolla 5-lobed, yellow, funnel shaped, 1.2 cm long, twice as long as calyx. Stamens 5. Nutlets triangular.

Flowering: March–April.

Habitat: Sandy dunes along southern coasts.

Distribution: On southern shores, Abu Samra, Wadi Igeig, Dukhan.

Uses: Eaten by animals.

Echiochilon Desf.

Echiochilon jugatum Johnson. in J. Arn. Arb. 38 (1957).

Low spreading woody perennial herb, 10–20 cm high. Branches erect, white-grey, hairy. Short internodes. Leaves sessile, grey, opposite, 3–4 x 1 mm, grey-tomentose, acute, entire. Flower axillary, pink-yellow. Calyx 5 lobed, pink yellow. Stigma bi-lobed.

Flowering: February–April.

Habitat: Rocky sandy soils.

Distribution: Northern Qatar, Jebel Fuweirat.

Uses: Grazed by animals.

Echium L.

Echium horridum Batt.

Arabic: Kiheil.

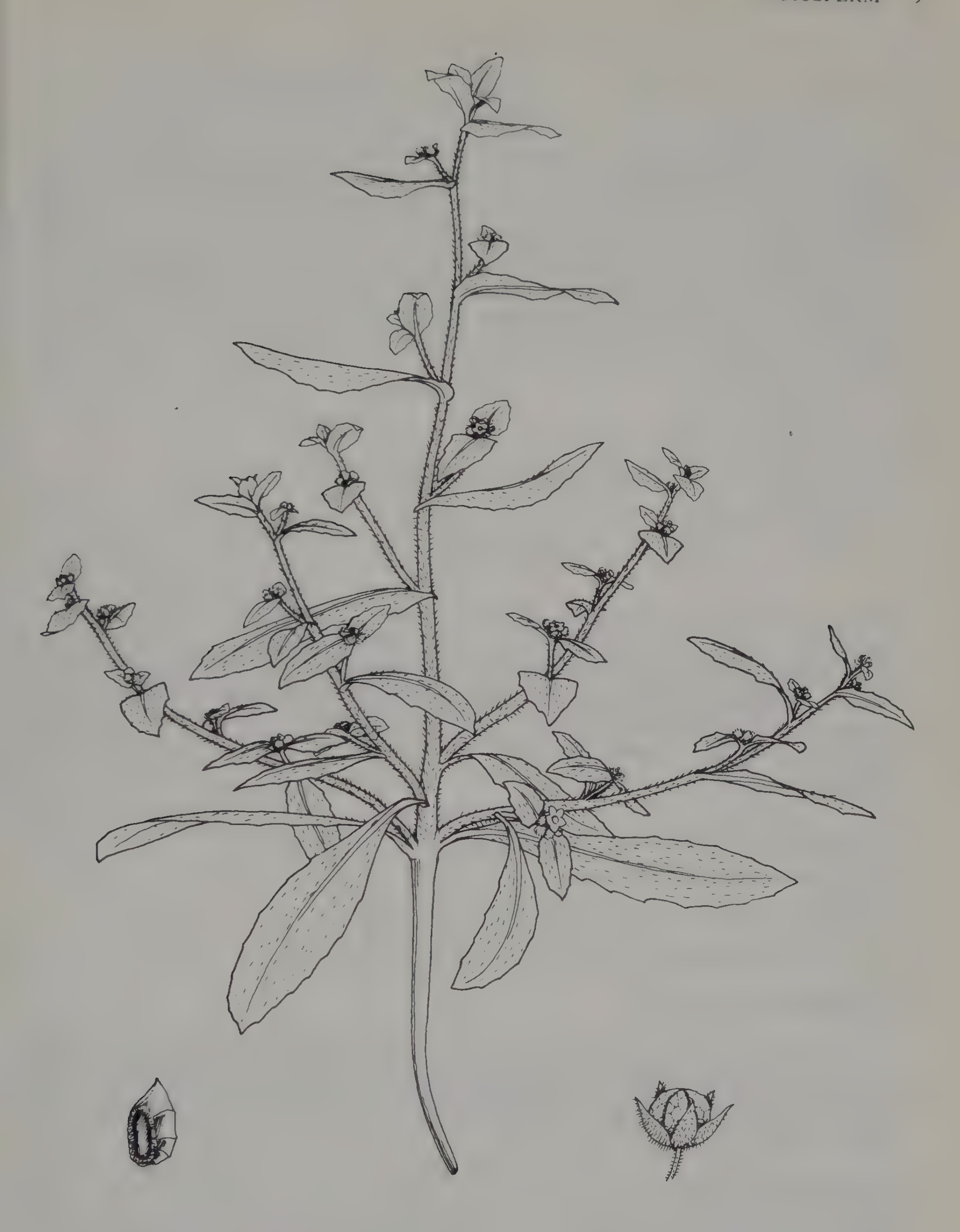
Annual herb 30 cm high, densely covered by glandular bristles. Calyx 5 lobed. Corolla funnel shaped, violet, bilabiate, 5-lobed limb. Stamens unequal. Nutlets 4, free.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: South-west Qatar.

Uses: Said to help urine complaints and to give relief from fever.



GASTROCOTYLE HISPIDA

Gastrocotyle Bunge.

Gastrocotyle hispida (Forssk.) Bunge., Rel. Lehm. 405 (229) (1847).

Syn: Auchusa hispida Forssk.

Arabic: Anbasees.

Annual prostrate herb 20 cm long, strongly hispid. Leaves oblanceolate, 4–7 x 1–2 cm, densely hispid, apex rounded, base cuneate, margin dentate, surface scabrid. Flowers short pedicelled. Calyx with whitish bristly hairs. Corolla small, violet, funnel shaped. Fruit kidney shaped with reticulate ridging, brown.

Flowering: March–April.

Habitat: On sandy soils.

Distribution: Shahania, Dukhan.

Uses: Eaten by animals.

Heliotropium L.

Heliotropium bacciferum Forssk. Fl. Aegypt. – Arab. 38 (1775).

Annual erect herb 20–40 cm high. Stems ascending, pubescent. Leaves green-greyish, alternate, sessile, lanceolate-elliptic, 1.5–3.5 x 0.5–0.7 cm, acute, cuneate, margin revolute, appressed-pubescent. Flowers white axillary on 3–4.5 peduncles, scorpoid, 6–8 flowered. Calyx 5-lobed, pubescent. Corolla 5-lobed, pubescent outside. Fruit nutlets in jointed 2 pairs.

Flowering: March-April.

Habitat: Sandy and gravelly soils.

Distribution: Common in Qatar, especially northwards.

Uses: Grazed by animals.

H. ramosissium (Lehm.) DC.

Annual herb, 40 cm high. Stem grey pubescent. Leaves oblong lanceolate, sessile, 1.5–2 x 0.3 cm, acute, cuneate, dentate, appressed pubescent. Flowers on terminal axils, white on 1 cm long peduncles. Calyx 5, pubescent. Corolla white, 5-lobed. Fruits nutlets, 2-paired.

Flowering: April.

Habitat: Gravelly soils.

Distribution: Northern Qatar.

Uses: Grazed by animals.

Lappula Gilib.

Lappula spinocarpos Forssk. Aschers., in Sitz. Bot. ver. Brand.

Annual herb 30 cm high. Stems appressed pubescent, grey. Leaves alternate, sessile, oblong to oblanceolate, 2–4 x 0.3–0.5 cm, obtuse, cuneate, entire, scabrid, appressed pubescent. Flowers white, axillary on short pedicels. Calyx 5-lobed, pubescent, longer than fruit, persistent. Corolla 5-lobed, white to pale blue. Fruits green-yellow, spiny.

Flowering: March–April.

Habitat: Sandy wadis and runnels.

Uses: Grazed by animals.

Moltkiopsis Johnst.

Moltkiopsis ciliata (Forssk.) Johnst., J. Arnold Arb. 34: 6 (1953).

Arabic: Ghabsha, Halama.

Annual herb 30 cm high, densely hispid. Branches white, hispid. Leaves alternate, grey-green, sessile, ovate-lanceolate, 1–2 x 0.3-6 cm, hispid with bristly margins, acute, cuneate, entire. Flowers terminal. Calyx grey hispid. Corolla blue-pinkish.

Flowering: March–April.

Habitat: Sandy saline soils.

Distribution: South western shores, Um Bab, Dukhan, Jebel Fiweirit.

CAPPARIDACEAE

Capparis L.

Capparis spinosa L. var. *aegyptia* (Lam.) Boiss. Fl. Orient. 1: 420 (1867).

Arabic: Shok El Homar, Shaflah.

Thorny trailing shrub 1–2 m high with procumbent hanging branches. Branches light brown. Spines hooked, paired, orange, 1–3 cm long. Leaves alternate, elliptic, coriaceous, apex rounded or acute, base cuneate, 5 x 3 cm. Petiole 1–3 cm long. Flowers white with red filaments, 3–7 cm diameter, axillary, solitary or in loose unilateral leafy racemes. Ovary long-stipitate. Berry ellipsoid-oblong, 5–6 cm long, many-seeded on a strong gynophore.

Flowering: March.

Habitat: Among rocks and stony grounds.

Distribution: North east, Shafalahia, El Khor.

Uses: Fodder for animals especially camels. The buds are cooked and pickled and used for flavouring in cooking. The bark is said to be used for treating arthritis.

CARYOPHYLLACEAE

Polycarpaea Lam.

Polycarpaea repens (Forssk.) Ascher. & Scheweinf. f. Oesterr. Bot. Zeitschr. 39: 126 (1889).

Arabic: Kamila, Makhor.

Perennial prostrate hairy plant, 20–30 cm high. Branches ascending, angular. Leaves whorled, sessile, 0.5 x 0.1 cm, lanceolate, apex acute, base truncate. Stipules scarious. Flowers white, minute, axillary and terminal cymes. Bracts scarious. Calyx 5-lobed, scarious. Petals 5-lobed, scarious. Capsules 3-valved, many seeded.

Flowering: March–April.

Habitat: On loose sandy soils.

Distribution: El Kheisa, El Kharara, Dukhan.

Uses: Grazed by animals.

P. spicata Wight. & Arn., Ann. Sc. Nat. Hist. 3: 51 (1839).

Erect annual herb, 10–20 cm high. Stems slender, green, glabrous with elongated internodes. Leaves rosetted at base, whorled on erect branches. Rosette leaf spathulate, 2–3 x 0.3 cm, obtuse, cuneate. Upper leaves oblanceolate, whorled, 0.7 x 0.1 cm, acute, sessile. Flowers white-pink on 3 spikes, sessile. Peduncles long 4–5 cm long arising from centre of whorled leaves. Calyx 5-lobed, white-pinkish, scarious.

Flowering: March–April.

Habitat: On sandy and gravelly soils.

Distribution: Central Qatar, Doha, El Khor.

Uses: Grazed by animals.

Polycarpon L.

Polycarpon teteraphyllum (L.) L., Syst. Nat., ed. 10, 2: 88 (1759).

Annual prostrate herb with green-pinkish forked branches, 10–20 cm high. Leaves opposite or whorled in 4, spathulate or obovate 1–1.5 x 0.8 cm, rounded, cuneate, glabrous. Flowers in dense clusters, green whitish. Sepals 5-lobed, green, scarious, lanceolate, 3 mm long. Bracts scarious. Stamens 3. Fruit a capsule.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Central Qatar, Doha.

Uses: Grazed by animals.

Robbairea Boiss.

Robbairea delineana Milne Redh. Kew. Bull. 1948: 452 (1949).

Annual herb, prostrate, 10 cm high. Leaves lanceolate, oblanceolate, whorled, acute, cuneate, sessile, 0.5 x 0.1 cm. Stipule white, membraneous. Flowers white pinkish, axillary on terminal branches. Calyx 5-lobed, scarious. Corolla 5-lobed.

Flowering: February–April.

Habitat: Stony and gravelly soils.

Distribution: Um Salal Ali, El Karar.

Sclerocephalus Boiss.

Sclerocephalus arabicus Boiss. Diagn. Ser. 1, 3: 12 (1843).

Arabic: Dahain, El Thraisa.

Annual herb 10–30 cm high. Branches green, striate. Stipules white, membraneous. Leaves whorled, sessile, smooth, 1 x 0.1 cm, linear-lanceolate, fleshy, acute, truncate base. Flowers green small, prickly hard heads. Fruits bristly.

Flowering: March.

Habitat: Common on sandy grounds.

Distribution: Karaana.

Uses: Not liked by animals due to bristles.

Silene L.

Silene arabica Boiss. Fl. Orient. 1: 593 (1867).

Syn: S. affinis Boiss. non. Godr.

Arabic: Abu Deheida.

Annual herb, erect, 30 cm high, glandular-hairy. Leaves sessile, opposite, 1–3 x 0.1–0.4 cm, linear-lanceolate, acute, glandular, hairy. Flowers axillary, solitary. Pedicels 2–3 cm long, pubescent. Calyx 5-lobed, 10-nerved, 1 cm long. Corolla white with deep linear lobes, 1.5 cm long. Fruit capsule.

Flowering: March.

Habitat: On red sandy soils and in cultivated lands.

Distribution: North.

S. villosa Forssk. var. erecta Tackh. & Boulos.

Arabic: Kahila, Terba.

Annual erect herb, small, compact, 15–20 cm high. Branches erect, glandular. Leaves oblong-lanceolate, 1.5–2 x 0.2 cm, glandular, sessile, acute, cuneate. Flowers white-cream, sweet scented. Calyx 5-lobed, green, glandular, striate. Corolla 5-lobed, creamy, sticky, 2.5 cm long.

Flowering: March.

Habitat: Sandy grounds.

Distribution: On southern shores, Wadi El Galail, Ageig, Dukhan and also in El Kharara.

Uses: Grazed by animals.

Spergula L.

Spergula fallax (Lowe) Krause in Sturm. Deutsch. Fl. ed. 2, 5: 19 (1901).

Annual slender herb 10–20 cm high. Leaves linear, small, whorled, dark green, 3–5 x 0.1 cm, acute, sessile. Flowers pale mauve to white in leafy inflorescences, 9-flowered. Calyx 5-lobed, green scarious, elliptic, obtuse, 4 mm long. Petals lanceolate, acute. Seeds flattened, winged, black with papillae.

Flowering: March–April.

Habitat: Fine textured sandy soils.

Distribution: On slopes of Jebels, Jebel Dukhan, Shahania.

Uses: Grazed by goats and sheep.

Spergularia J. & C. Presl.

Spergularia diandra(Guss.) Boiss., Heldr. & Sart., Herb. Graec. Norm. No. 492 (1855).

Arabic: Gleigla, Um Thraib.

Annual herb, slender, 6–10 cm high. Leaves whorled, linear, 1 x 0.1 cm, acute, sessile. Flowers small, numerous, pink or white in cymes. Pedicel 0.5 cm long. Calyx 5-lobed, 0.5 cm long. Corolla 5-lobed, margin scarious. Fruit capsule. Seeds black, rounded.

Flowering: March–April.

Habitat: Fine textured soils, usual under shade of tree.

Distribution: Central Qatar, Um Salal Ali, Shania.

Uses: Grazed by sheep and goats.

Stellaria L.

Stellaria media (L.) Vill. Hist. Pl. Dauph. 3: 615 (1789).

Annual herb, soft green, richly branched up to 20 cm high. Leaves variable in size and shape; upper leaves sessile, ovate-elliptic, 0.5–3 x 2 cm, exstipulate, acute, glabrous or ciliate at base. Flowers axillary. Calyx 5 mm long, scarious. Petals smaller than sepals, deeply bifid, rarely absent. Stamens 3–10. Capsule ovoid, nearly longer than calyx, 6-valved. Pedicels bend down with matured fruit. Seeds 1 mm in diameter, tubercled.

Flowering: March–April.

Habitat: A weed of cultivation.

Distribution: Central Qatar in cultivated fields.

Uses: Grazed by animals.

Vaccaria Medicus.

Vaccaria pyramidata Medicus, Phil. Bot. 1: 86 (1789).

Syn: V.oxyydonta Boiss.

Arabic: Tageeg.

Annual glabrous erect herb, 30 cm high. Stem angular dichotomously branched. Leaves opposite, sessile, lanceolate 6–10 x 3 cm, acute, adnate base, glabrous, entire. Flowers axillary on terminal branches. Pedicel 3–5 cm long. Calyx 5 lobed, green in



AGRIOPHYLLUM MINUS

middle, white margined, 1.5 cm long, mucronate. Corolla 5 lobed, pink, 2 cm long. Capsule brown, 4-valved. Seeds spherical, black.

Flowering: March–April.

Habitat: On irrigated fields.

Distribution: El Khor (N.E.)

Uses: Grazed by animals.

CHENOPODIACEAE

Agriophyllum M. B.

Agriophyllum minus Fisch. & Mey.; Boiss. Fl. Or. 4: 929 (1879).

Spiny annual herb, 20–30 cm high. Branches green, striate, glabrous. Leaves alternate. Lower leaves larger, lanceolate linear, prominently parallel nerved, 1.5–2 x 0.1 cm, acuminate, sessile, entire, glabrous; smaller leaves on branches lanceolate, 0.5 x 0.1 cm, acuminate, spiny, sessile, parallel nerved, scarious while on margins, entire. Flowers small, axillary. Segments white, spiny.

Flowering: April.

Habitat: Sandy shores and sand dunes.

Distribution: Southern shores; Salwa.

Uses: No information.

Anabasis L.

Anabasis setifera Moq., Chenopod. Monogr. Enum. 164 (1840).

Arabic: Hamd. El Arnab, Hamd., Sharan.

Annual herb, erect, 30–60 cm high, green, succulent. Branches grooved lengthwise. Leaves fleshy, sessile, opposite oblong, 2 x 1.5 cm, apex rounded, apiculate, base cuneate. Flowers in terminal clusters, yellow-green, papery. Fruit perigonium, 5-winged, entire.

Flowering: November–Jan.

Habitat: Near sea shores on saline sands and gravels.

Distribution: All round the coasts on elevated grounds. Collected at El Khor and Salwa, Um Bab.

Uses: Known for good salt grazing for camels and other animals.

Arthrocnemum Moq.–Tand.

Arthrocnemum glaucum (Del.) Ung.; Stern. Atti congr. Firenze, 283 (1874).

Erect bushy plant, 1–1.5 m high. Branches succulent, green, articulate, opposite on stem. Leaves opposite, connate, rudimentary. Flowers in dense terminal spikes 6–8 cm long. Flowers 3 in a cluster covered by bracts. Seeds winged, tuberculate.

Flowering: March–May.

Habitat: Common in salt marshes.

Distribution: Along the coats on El Kohr, Ras Ushirig, Um Bab, Dukhan.

Uses: Grazed by camels. Dry stems used as fire wood.

Atriplex L.

Atriplex leucoclada Boiss. Diagn. Ser. 1, 12: 95 (1853).

Arabic: Rughl.

Perennial herb with woody white smooth stems up to 1 m high. Leaves grey green or pale green, opposite, deltoid-ovate to oblong, 4 x 2 cm, apex acute, base cordate-cuneate, margin undulate, dentate. Flowers terminal spikes up to 10 cm long. Flowers greenish white, minute. Bracts enveloping the fruit.

Flowering: March–May.

Habitat: On elevated saline coasts on sandy and gravelly soils.

Distribution: Along the coasts, El Khor, Um Bab.

Uses: Valuable salt grazing for camels and sheep.

Bassia All.

Bassia eriophora (Schad.) Ktze.

Arabic: Guttn.

Annual herb 30–40 cm high. Branches erect, woolly pink. Leaves alternate, oblong, tomentose, 2 x 0.5 cm, entire, apex acute, base cuneate, sessile, scabrid. Flowers axillary, green, woolly spikes. Ovary surrounded by white cottony fibres that give the plant a white characteristic appearance. Fruit 5-sided with 5 white spines.

Flowering: April–May.

Habitat: Gravelly and stony depressions.

Distribution: North of Qatar on northern road near El Khor.

Uses: White fibres used as cotton stuffings.

B. muricata (L.) Murr.

Arabic: Gebeira, Haytham.

Annual herb 30 cm high, hairy, many stemmed from neck. Stem reddish, pubescent. Leaves verticellate or clustered at nodes, different sizes, lanceolate – linear, sessile, acute, hairy. Flowers on axillary panicles, sessile, loose. Fruit perigonium, star shaped yellow with 5 spines twice the length of disc.

Flowering: March.

Habitat: Sandy and stony grounds.

Distribution: Scarce in northern Qatar.

Uses: Grazed by camels, not liked by sheep.

Beta L.

Beta vulgares L. Sp. Pl. ed. 1, 222 (1753).

Arabic: Bangar.

Annual herb with flattened furrowed stems. Radical leaves ovate-spathulate, obtuse to acute, 15 x 5 cm, cauline leaves rhombic ovate lanceolate or linear. Inflorescence terminal 20 cm long. Perianth 5-lobed. Flowers 2-3 in a cluster or solitary.

Flowering: March.

Habitat: Saline soils in cultivated fields.

Distribution: Common in cultivated rodat.

Uses: Eaten as a salad.

Chenopodium L.

Chenopodium album L. Sp. Pl. ed. 1. 219 (1753).

Annual herb 30–70 cm high. Stems erect, furrowed, green to reddish. Leaves alternate, variable; lower leaves rhombic-ovate, obtuse, dentate with 3 basal ascending veins, 5–7 x 2–3 cm. Upper leaves lanceolate 3–5 x 1–2.5 cm, acute, cuneate, entire. Inflorescence in terminal and axillary clustered panicles. Flowers grey-green with a red tinge. Sepals 5, papillose on margins with a green keel. Stamens 5. Perianth segments enclosing the fruit. Seeds black, shining, 1.5 mm in diameter, keeled.

Flowering: April–May.

Habitat: Irrigated fields and lawns.

Distribution: Cultivated grounds all over Qatar.

Uses: Eaten by animals.

C. ***murale*** L., Sp. Pl. ed. 1, 219 (1753).

Syn: C. triangulare Forssk.

Arabic: Wireig.

Annual herb, 40–80 cm high. Stems reddish, furrowed, succulent. Leaves triangular or ovate, 3–6 x 2–3 cm, apex acute, base cuneate, margin dentate. Basal nerves 3. Petiole 3–5 cm long. Flowers green in clustered spikes, terminal or few axillary, perianth 5 segments, whitish red. Stamens 5, white. Fruits round. Seeds pitted, sharply keeled, 1.5 mm diameter.

Flowering: March.

Habitat: Common in gardens and waste places.

Distribution: Common all over Qatar in cultivated fields.

Uses: Grazed by camels, sheep and goats.

Cornulaca Del.

Cornulaca aucheri Moq. Chenopd. Monogr. Enum. 163 (1840).

Perennial small herb with hard woody stems up to 30 cm in height. Leaves alternate, curved, lanceolate, ending with sharp pointed spiny apex. Base amplexicaule. Flowers terminal on branches, yellow in clusters. Perianth lobes 5, united below in a hard cup.

Flowering: October–November.

Habitat: Common near sea shore on sandy soils.

Distribution: Round the coasts in Um Bab, Salwa, El Khor.

Uses: Grazed by camels.

C. ***monocantha*** Del. Fl. Aegypt. Ill. 234, t. 22 (1813).

Blue green shrub. Leaves short recurved, tapering from a clasping base into a rigid spine, axils woolly, one or two of perianth segments in fruit with a long stout spine.

Flowering: October–November.

Habitat: Common near sea shore on sandy soils.

Distribution: Round the coasts in Um Bab, Salwa, El Khor.

Uses: Grazed by camels.

Halocnemon Bieb.

Halocnemon strobilaceum (Pall.) Bieb. Fl. Taur. Cauc. 3: 3 (1819).

Arabic: Hadhadi, Sabat, Hamd Beri, Hamdat Arnab.

Richly branched shrub 30–60 cm high. Stem succulent, strobilate, grey with a woody base. Flowers in terminal spikes. Leaf rudiments small, densely decussate, rosy-like buds along the stems. Flowers 3 together, not cornate.

Flowering: March–April.

Habitat: On sea shore sands.

Distribution: Along the sea coasts, El Khor.

Uses: Salt grazing by animals.

Halogeton C. A. Mey.

Halogeton alopecuroides (Del.) Moq. – Tand. Chenopod. Monogr. Enum. 161 (1840).

Arabic: Hamd.

Dwarf bush arising from a woody base, 30 cm high. Branches white, smooth. Leaves succulent, cylindrical to globular, 1–2 x 0.7 cm with a deciduous apical small spine. Flowers in axillary clusters at upper parts of branches. Fruit with 3-5 wings, woolly.

Flowering: March–April.

Habitat: On stony desert soils.

Distribution: North Qatar in El Khor and Um Salal Ali.

Uses: Grazed by camels.

Halopeplis Bunge.

Halopeplis perfoliata Bunge. ex Schweinf. & Asch. in Schweinf. Beitr. Fl. Aethiop. 1: 289 (1867).

Arabic: Rutreit, Khoreiz.

Succulent shrubby perennial plant, 30 cm high. Lower branches grey-brown, woody. Leaf rudiments look like joints of stem, spherical, forming necklace, swollen joints, shiny green to reddish green, alternate. Flowers 3 together, adnate to floral cup, forming dense spikes. Flower pale reddish with yellow stamens. Fruit without.

Flowering: March.

Habitat: Seashore.

Distribution: Around coasts in El Khor, Um Bab, Salwa.

Uses: Salt grazing.

Haloxylon

Haloxylon salicornicum (Moq.) Bunge. in Boiss. Fl. Orient. 4: 949 (1879).

Arabic: Gatha.

Succulent bush 50–120 cm high or more. Young branches green, strobilate; older branches grey whitish. Leaves rudiments deciceous. Pointed tips at end of each joint. Flowers pale pink green at axils of upper branches. Petals 2, papery, scarious. Fruits conical, 0.7 cm, not winged.

Flowering: April–May.

Habitat: Typical sand dune bush on coastal deep sands.

Distribution: Southern Qatar, east of Salwa at Mah Sobia hill near borders of Saudi Arabia.

Uses: Good fodder for camels. Other animals graze on it when nothing else is around. The hard woody stems are used for firewood. The plant is a good sand dune stabilizer.

This plant is similar in many characters to ***Hamada elegans*** (Rimth) but differs in its size (it can reach up to 3 metres).

Hamada Benge

Hamada elegans (Bunge.) Botsch. in Novit. Syst. Pl. Vasc. 362 (1964).

Succulent strobilate shrubby perennial 40–90 cm high. Branches white when old, green and succulent when young, jointed. Old branches are woody. Leaves small, scale-like, rudimentary, deciduous with woolly axis. Flowers solitary. Stamens 5 with joined filaments. Fruit 5-winged.

Flowering: April–May.

Habitat: Common in south west coasts on sandy soils forming mounds of sand.

Distribution: South-west in Wadi El Ireig, Mahsoubia, Salwa and also northwards at El Khor coast.

Uses: Good camel grazing. Used as fuel wood to prepare tea and coffee. Also used as a detergent.

Salsola L.

Salsola baryosoma(Roem. & Schult.) Dandy in Andrews Fl. Pl. Anglo. Egypt. Sud. 1: 111 (1950).

Syn: S.foetida Del. & Spreng.
Chenopodium baryosmon.

Arabic: Gaghref.

Succulent bush, 40–50 cm high. Branches white with pinkish ends. Leaves succulent, green, alternate, densely clustered on branches. Stems pink or yellow green. Leaves linear hairy densely clustered. Plant has a smell like fish. Flowers axillary spikes. Segments 5, papery, whitish. Fruits winged.

Flowering: April.

Habitat: Sandy and stony salty grounds.

Distribution: Near coasts in Dukhan, El Khor.

S. vermiculata L. Sp. Pl., ed. 1, 223 (1853).

Arabic: Khereit, Shnan, Hamdh.

Succulent herb 10 cm high, pubescent with soft white hairs. Leaves small narrow, half clasping, clustered in globules. Flowers solitary, axillary, 5-lobed. Perigonium 5-fid, winged.

Flowering: March.

Habitat: Sandy and stony saline grounds.

Distribution: Central and northern Qatar.

Uses: A variety of Hamdh or salt grazing plant.

Seidlitzia *Bunge. ex Boiss.*

Seidlitzia rosmarinus Bunge. ex Boiss. Fl. Orient. 4: 95 (1879).

Arabic: Shinan, Hamd.

Perennial bush 60–90 cm high. Old stems grey white, woody. Leaves succulent, green, pubescent, subcylindrical, widening at apex 1–3 x 0.3–0.5 cm, obtuse. Older leaves white. Flowers on pubescent axils. Perianth papery 4–5 segments, covering the fruit. Fruit winged.

Flowering: March–April.

Habitat: On saline sandy and rocky ground.

Distribution: In southern coastal areas in Um Bab, Dukhan and Abu Samra.

Uses: In Kuwait, the dried leaves are used as soap to wash clothes and hair.

Suaeda *Forssk. ex Scup.*

Suaeda baccata Forssk. Fl. Aegypt. – Arab. 69 (1775).

Syn: Schanginia baccata (Forssk.) Moq.
S. aegyptiaca (Hasselq.) Aellen.

Arabic: Hatallus, Jilban, Soweid.

Succulent perennial up to half a metre high. Branches pink, smooth, succulent. Leaves succulent, bright green, alternate, 2–3 cm x 0.2 cm or variable in size, linear, flattened, sessile. Flowers small, green in clusters on axils of leaves. Sepals 5. Petals 0., stamens 5, opposite sepals. Styles 5.

Flowering: April.

Habitat: Saline soils in cultivated soils.

Distribution: Northern farms, Ras Ushirig and also at Abu Samra.

Uses: Fresh leaves are eaten as a salad and sold at Bazaars at Qatar. Animals also graze on the fleshy leaves and branches.

S. vermiculata Forssk. ex Gmel. Syst. ed. 13, 2: 503 (1791).

Syn: S. mollis Del.

Arabic: Tuwaim, Suweid, Girm, Sha'aran.

Low shrub about 1 m high, young stems reddish green. Leaves dark green, variable in size, 1–3 x 0.2 cm, upper ones ovoid to spherical, terete, succulent with a short petiole. Flowers densely clustered in axils of scale like bracteoles at upper parts of branches. Stamens 5. Stigmas 2-3. Fruit 5-parted.

Flowering: February–April.

Habitat: Saline sandy shores.

Distribution: Southern Qatar at Abu Saura, Um Bab.

Uses: Salty bush eaten by animals.



HELIANTHEMUM SSP

CISTACEAE

Helianthemum Mill.

Helianthemum kahiricum Del., Fl. Aegypt. Ill. 65 (1813).

Arabic: Ragroug.

Annual herb 20 cm high. Branches grey, stellate puberulent. Leaves alternate, elliptic to lanceolate, 2 x 0.3 cm, apex dentate, base cuneate, margin entire, stellate-hairy, sessile. Flowers axillary. Pedicels as long as calyx or shorter, 0.5 cm long. Calyx 3-lobed, reddish, villous, 1 cm long, striate. Petals 3, yellow-white, hairy, lobed. Style 5-parted, 6 times sepals length. Stamens spirally coiled round style. Fruit a capsule, brownish, ovate, opening by 3 valves, 0.8 cm long. Seeds minute, many, brown.

Flowering: March.

Habitat: On sandy soils and stony grounds.

Distribution: Near Wakra hill.

Uses: Eaten by animals.

H. lippi (L.) Dum-Cours., Bot. Cult. 3: 130 (1802).

Arabic: Ragroug.

Herb 20 cm high. Leaves elliptic 2 x 1 cm. Apex acute, base cuneate, entire, stellate, hairy beneath. Flowers in axillary hairy spikes, 2.5 cm long. Flowers sessile. Calyx 3-lobed, 1 cm long, pubescent, striate. Petals 3-lobed, hairy, style long. Fruit capsule green ovate, 0.2–0.3 cm long, opening by 3 valves.

Flowering: March–April.

Habitat: Sandy and stony soils.

Distribution: Central Qatar, Karaana.

Uses: Eaten by animals.

CLEOMACEAE

Cleome L.

Cleome amblyocarpa Barr. & Murb. Lund. Univ. Arss. N. F. Afd. 2, 1: 25 (1905).

Arabic: Adheer.

Annual erect herb 30–40 cm high. Stems soft green, glandular, pubescent ascending. Leaves trifoliate, glandular. Leaflet lanceolate-elliptic, 3–5 x 1.5 cm, acute, cuneate, glandular, hairy, soft. Petiole longer than leaflets up to 6–8 cm long, soft, glandular. Flowers axillary, solitary in axils of bracts, yellow. Pedicels 3–4 cm long, glandular, deflexed in fruit. Calyx 4-lobed, green, lanceolate, glandular, 0.5 cm long. Petals 5-lobed, yellow, clawed, 0.8–1 cm long. Stamens 6. Capsule linear oblong, beaked, glandular, 2–5 x 0.8 cm, not constricted, pendulous. Seeds brown, soft, pubescent, 2 mm long.

Flowering: April.

Habitat: Sandy saline depressions.

Distribution: El Khor, Abu Samra, Jebel Nagsh.

Uses: Grazed by camels.

C. ***scaposa*** DC., Prodr. 1: 239 (1824).

Annual erect herb 30–40 cm high. Branches succulent, glandular, hispid. Leaves simple, ovate 3–4 x 3 cm, rounded apex, base rounded to cordate, scabrous, glandular, pubescent, entire. Petiole longer than the leaves, 6–9 cm long, soft, glandular, hispid. Upper leaves smaller. Inflorescence lax racemes. Flowers yellow. Calyx 4-loved, elliptic, 1.5 mm long. Corolla 4-lobed, 5 mm long, obovate, clawed, yellow. Stamens 6. Fruit a capsule 2–4 x 0.3 cm, oblong, beaked, curved. Seeds black, 0.5 mm diameter, glabrous.

Flowering: April.

Habitat: Sandy depressions.

Distribution: Northern Qatar.

Uses: Grazed by animals.

COMPOSITAE

Aaronsohnia *Warbg. & Eig.*

Aaronsohnia factorovskyi Warb. & Elg. in Zion. Org. Inst. Agr. Nat. Hist. 6: 39 (1927).

Arabic: El Garise.

Aromatic annual herb branching from the base. Branches glabrous. Leaves alternate, pinnatisect; segments 3-5 pairs, linear, acute, glabrous. Heads yellow, solitary, globose, terminal, 0.6 cm diameter on peduncles 3 cm long. Flowers discoid. Involucre bracts scarious margin. Achenes many ribbed.

Flowering: March–April.

Habitat: On sandy and stony depressions.

Distribution: Central Qatar, Shahania, Karaana.

Uses: Grazed by animals.

Asteriscus Mill.

Asteriscus pygmaeus (DC). Coss. & Dur., Sant. Tunet, 26 (1957).

Arabic: Gahwayan.

Dwarf compact annual herb, 10 cm high or sometimes branching erect and reaches 30 cm high. Branches stout sparsely pubescent. Leaves rosetted spreading flat on the ground, spathulate. 4–6 x 1–1.5 cm, rounded to acute, cuneate, entire, pubescent. Head at centre of rosetted leaves, solitary or many, yellow-orange. Involucre bracts stout, pubescent, enclosing the capitulum lightly. Ray florets toothed yellow. Achenes tomentose. Pappus white.

Flowering: April–May.

Habitat: On fine soils in depressions.

Distribution: North and central Qatar in rodat.

Uses: Used by locals to clean and perfume their teeth. Also grazed by animals.

Atractylis L.

Atractylis carduus (Forssk.) Christens. Dansk. Bot. Ark. 4 (3): 27 (1922).

Arabic: Sheyoukh el Bar.

Spiny perennial herb 20–30 cm long. Branches pink, arising from base, densely pubescent. Leaves light green, linear lanceolate, alternate 5–6 x 0.7 cm, lobed, lobes ending with sharp spines, sessile, pubescent. Heads solitary, terminal, ovate, 2 cm diameter, subtended by a whorl of spinous leaves. Involucre bracts 3–4 rows, ovate, greenish with a red tinge, ending with an apical spine (no lateral spines as in Carduncellus eriocephalus). Florets yellow. Achene white, hairy, 0.3 cm long. Pappus white, 0.5 cm long.

Flowering: May.

Habitat: On sandy and gravelly soils.

Distribution: Karaana, Wakra, Wadi El Banat.

Uses: Not liked by animals although camels eat it when there is nothing else around.

Calendula L.

Calendula arvensis L., Sp. Pl., ed. 2, 1303 (1762–62).

Arabic: Hanwa.

Annual erect herb 15–30 cm high. Branches green, striate. Leaves alternate, sessile, elliptic-oblong, 8 x 0.8 cm, acute, cuneate, entire, pubescent to glabrous, ciliate or sparsely dentate. Flowers solitary, terminal on peduncles 3–5 cm long. Ray of florets orange yellow. Involucre bracts green tinged with purple at the tip, lanceolate. Pappus absent. Achenes incurved in a kidney shape, ridged or reguse on one side and bristly spinose on the other.

Flowering: April.

Habitat: Silty or fine irrigated soils.

Distribution: North Government farm.

C. tripterocarpa Rupr., Bull. Phys. Math. Acad. St. Peters. 14: 231 (1856).

Erect annual herb 20–30 cm high. Branches ascending, striate. Leaves alternate, sessile, oblong-lanceolate, 5–7 x 1 cm, acute or apiculate, cuneate, entire to slightly dentate, glabrous. Heads terminal, orange yellow on peduncles 1–2 cm long. Involucre bracts pubescent, lanceolate. Achene with three wings, curved, rogose.

Flowering: April.

Habitat: Sandy and gravelly soils.

Distribution: Central rodat.

Uses: Eaten by animals.

Carduncellus Adens.

Carduncellus eriocephalus Boiss.

Arabic: Kharshoot, Lomia.

Annual spiny herb, 10–20 cm high. Branches erect, pink, pubescent. Leaves deeply lobed, lobes ending with spiny bristles, oblong, 5–7 x 0.5–1 cm, sessile, apex spiny. Capitulum terminal 4 cm broad, surrounded by spiny bracts on the apex and margins of involucre bracts, pubescent. Pappus white yellow, 0.5 cm long. Achene 4-sided, 0.5 cm long.

Flowering: March–April.

Habitat: On stony and rocky grounds.

Distribution: Central Qatar near hills; Jebel Dukhan, Wadi El Banat.

Uses: Not liked by animals.

Centaurea L.

Centaurea sinaica DC. Prodr. 6: 592 (1837).

Arabic: Birkan, Murrar.

Spreading annual herb 10 cc–30 cm high. Branches green with white striation, pubescent. Leaves linear, lobed, 5–20 x 2–4 cm, serrate margin, pubescent. Petiole flattened on the branches. Flowers in solitary axillary heads, ovate, compact, 1 cm long, mauve or red colour. Bracts with filiform spines 1–2 cm long, yellow with a red tinge. Achene glossy brown.

Flowering: April–May.

Habitat: Stony and gravelly grounds.

Distribution: Umm Bab & Karaana.

Conzya Less.

Conzya bonariensis (L.) Cronquest., Bull. Torrey. Bot. Club. 70: 642. (1943).

Annual herb up to 1 m high. Branches green, ascending, pubescent. Leaves linear, deeply dissected, 10–20 x 3 cm. Upper leaves smaller and less dissected, acute, cuneate, pubescent. Flowers terminal, heads yellow also axillary. Pappus white, twice the length of bracts.

Flowering: March–April.

Habitat: Irrigated canals.

Distribution: Agricultural farms.

Eclipta L.

Eclipta prostrata (L.) L. Mantiss 2.: 2861 (1771).

Syn: Eclipta alba L. Hansskn., Pl. Jov. Rar. 528 (1848).

Decumbent ascending annual herb, 30 cm long, scabrous. Leaves opposite, sessile, dark green, lanceolate to elliptic, 6 x 1–1.5 cm, margin entire or slightly serrate, acute, cuneate, scabrid. Heads axillary, 1–2, peduncle 3–6 cm long. Flowers white. Achene tubercled. No pappus.

Flowering: May.

Habitat: On moist irrigated canals.

Distribution: Central Qatar in cultivated grounds.

Uses: Grazed by animals.

Filago L.

Filago desertorum

Arabic: Giteina.

Small annual herb 5–10 cm high. Branches grey, woolly. Leaves whorled, oblanceolate to oblong, 0.5–0.2 cm, densely hairy, greyish, surrounding the flowers, acute, cuneate, entire. Flowers in spherical sessile heads, whitish-yellow. Involucre bracts scarious.

Flowering: March.

Habitat: Sandy depressions and runnels.

Distribution: Common in north and central Qatar.

Uses: Rabbits eat this plant.

F. prolifera Pomel.

This plant has been reported by Dr. Obeid but not seen by the author.

Flaveria A. Juss.

Flaveria trinervia (Spreng.) Mohr. Contro. U.S. Nat. Herb. 6: 180 (1901.).

Annual glabrous herb 40 cm high. Stems and lower leaves purple. Leaves opposite or whorled at the apex, sessile, glabrous, oblanceolate to elliptic 4–7 x 2 cm, apex acute 3-nerved beneath, base cuneate remotely serrulate. Heads clustered, small, yellow axillary or terminal. Involucre with 2-5 keeled concave bracts. Fruit unarmed, without pappus.

Flowering: April.

Habitat: Edges of irrigated farms.

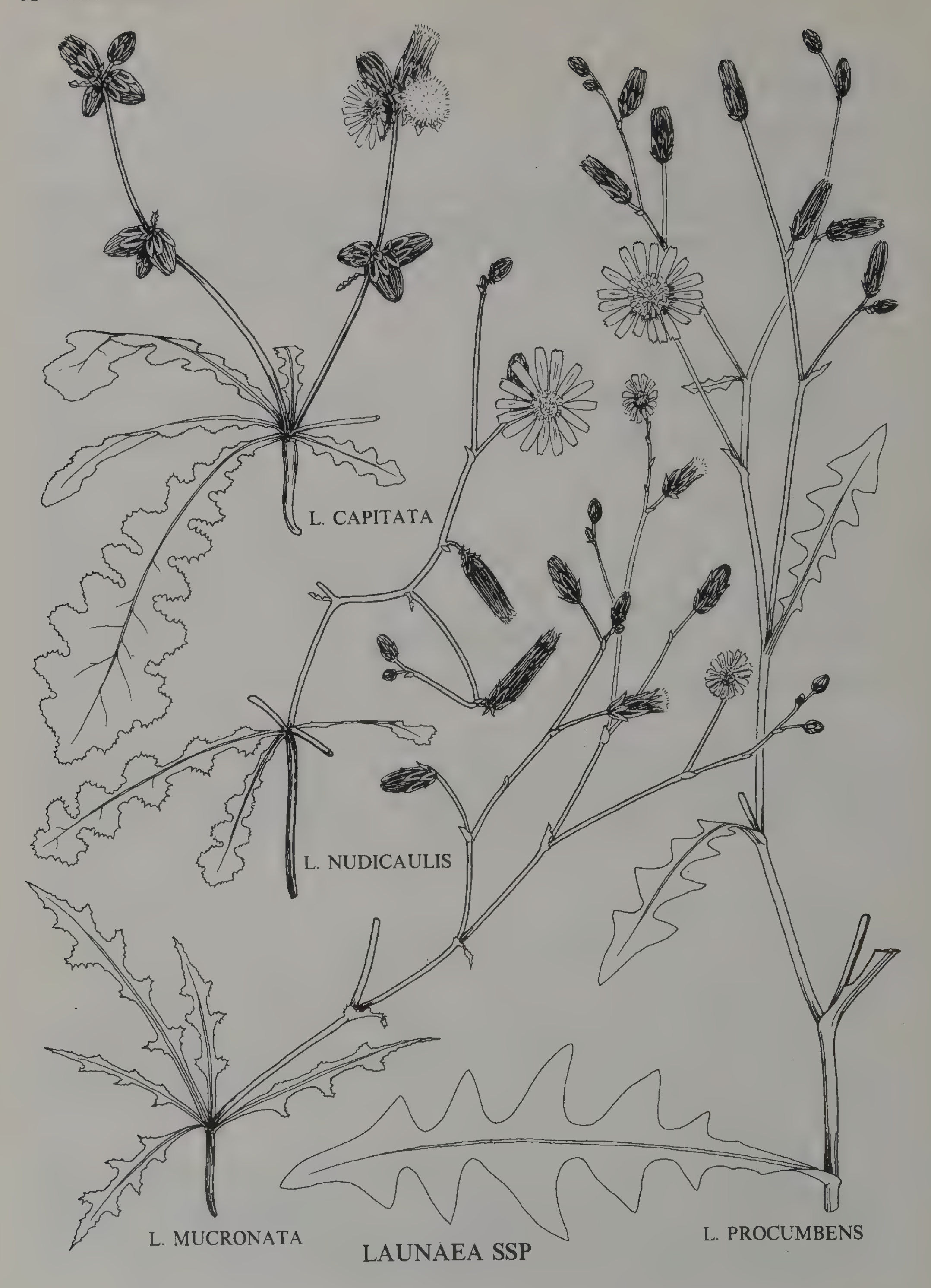
Distribution: Central Qatar, Shahania, northern road.

Uses: Grazed by animals.

Gymnarrhena Desf.

Gymnarrhena micrantha Desf. Mem. Mus. 4, 2. t. 1 (1818).

Rosetted herb 10 cm high. Leaves basal, sessile, congested, oblong-lanceolate, acute, base adnate to stem, 5–8 x 1–1.5 cm, entire or sometimes slightly toothed. Flowers in clusters and plant surrounded by the leaves, whitish, pinkish congested, involucre, green, leafy. Head many flowered, discoid. Involucre many rowed. Corolla slender, tubular, 3-toothed. Pappus several row, achenes filiform, glabrous.



LAUNAEA SSP

Flowering: March–April.

Habitat: Rocky and stony depressions or runnels.

Distribution: Central Qatar, Karaana, Shahania.

Uses: Poisonous plant and animals avoid it.

Ifloga *Cass.*

Ifloga spicata (Forssk.) Sch. Bip. in Webb. & Benth. Phyt. Canar 2: 30 (1845).

Arabic: Shagarat El Miaza, Hasaj.

Annual herb 5–10 cm high. Stems simple or branched. Branches pinkish, erect, densely covered with leaves and flowers. Leaves whorled, linear 1 x 0.1 cm, apex acute, base cuneate. Heads 2-3 on leaf axils, clustered. Involucre bracts scarious. Flower small, green, whitish.

Flowering: March.

Habitat: On saline and sandy soils.

Distribution: Common in central Qatar, Karaana.

Uses: Animals graze on it.

Launaea *Cass.*

Launaea capitata (Spreng.) Dandy., Fl. Pl. Sudan. 3: 40 (1956).

Syn: L. glomerata Hook..

Arabic: Hawa.

Annual herb 30 cm high, stout, stiff. Lower rosette. Leaves lyrate, lobed, 10–15 x 3 cm, serrate margin, radical leaves absent. Involucre 2 rows, white-margined, ovate lanceolate. Heads yellow, short densely clustered. Pappus soft, hairy, white, slightly longer than achene. Achene white, striate.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Common in Qatar.

Uses: Eaten by man raw, also by animals.

L. cassiniana (Jaub. et Sp.) Ktze. (Fl. Q.) Burkill., Pl. Baluchist. 44 (1909).

Arabic: Bagraa, Ageed.

Annual herb, stout, many-branched, 30 cm high. Leaves deeply lobed, 10 x 3 cm, upper leaves smaller dissected, auriculate. Heads solitary, terminal, yellow, involucre bracts 2-3 rows, mucronate. Pappus as long as achene.

Flowering: March.

Habitat: Sandy soils.

Distribution: Wakra.

Uses: Grazed by animals.

L. gorraeensis (Lam.) O. Hoffm.

Annual herb, 30 cm high. Leaves rosetted, 10 x 4 cm, deeply lobed with almost serrate margin, midrib flattened. Flowers in yellow solitary heads with 2 rows of involucre bracts. Upper ones 2 cm long, lanceolate. Pappus soft, white, hairy. Achenes beaked.

Flowering: March.

Habitat: Sandy soils.

Distribution: South east, Um Bab.

Uses: Eaten by animals.

L. mucronata (Forssk.) Muschl. Man. Fl. Agypt. 2: 1057 (1912).

Syn: L. candollena (Jaub. & Sp.) Bornm.

Annual herb 30 cm high. Stem with a milky latex. Rosette leaves deeply divided, lobes also divided, serrate, 10 x 3 cm. Upper leaves small, sessile, divided, midrib flattened, glabrous. Leaves deeply lobed, 10 x 3 cm. Flowers yellow on solitary heads on long peduncles. Involucre bracts lanceolate with scarious margins. Pappus longer than achene, white, persistent.

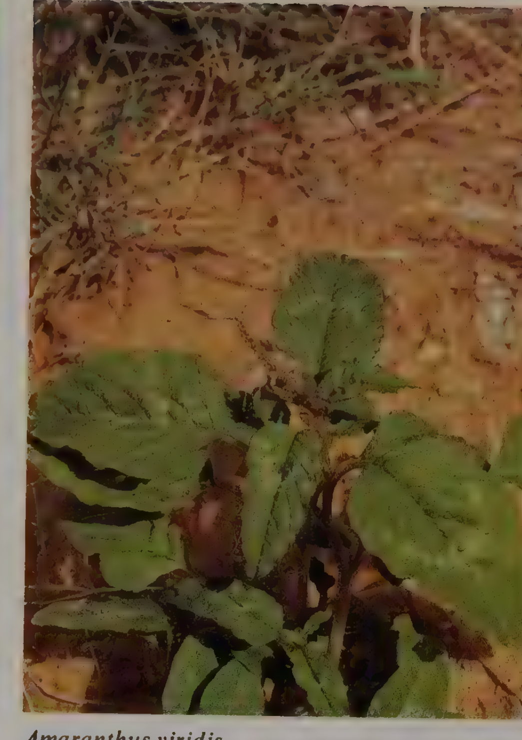
Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Wakeir, Karaana, Wakra.

Uses: Eaten by camels and sheep.

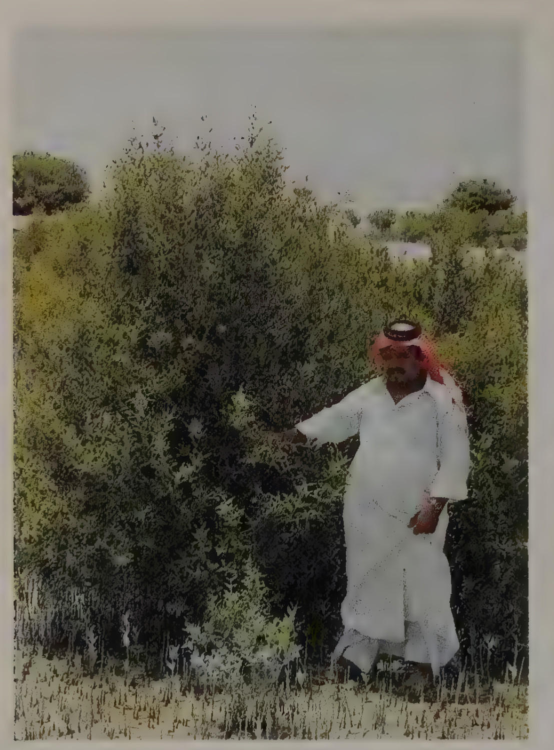

Aizoon canariense


Amaranthus viridis


Glossonema edule


Leptadenia pyrotechnica

PLATE NO. 1:



Avicennia marina



Arnebia decumbens



Arnebia hispidissima



Heliotropum bacciferum

PLATE NO. 2:



Capparis spinosa



Silene villosa

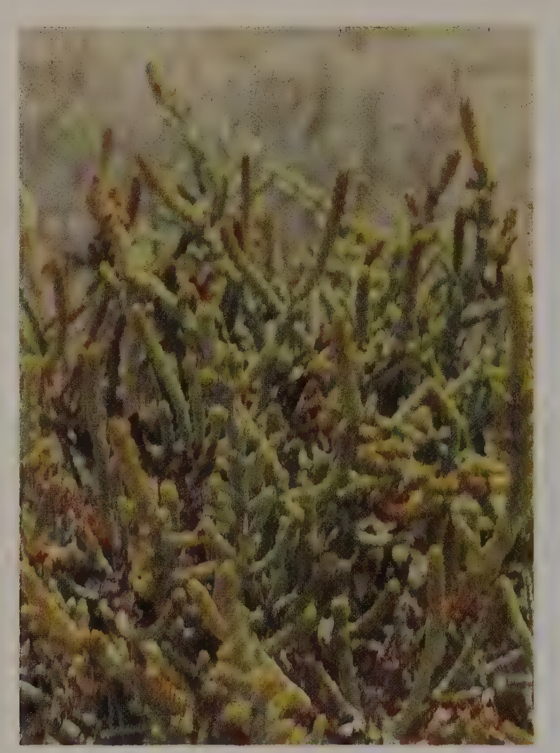


Aerva javonica



Anabasis setifera

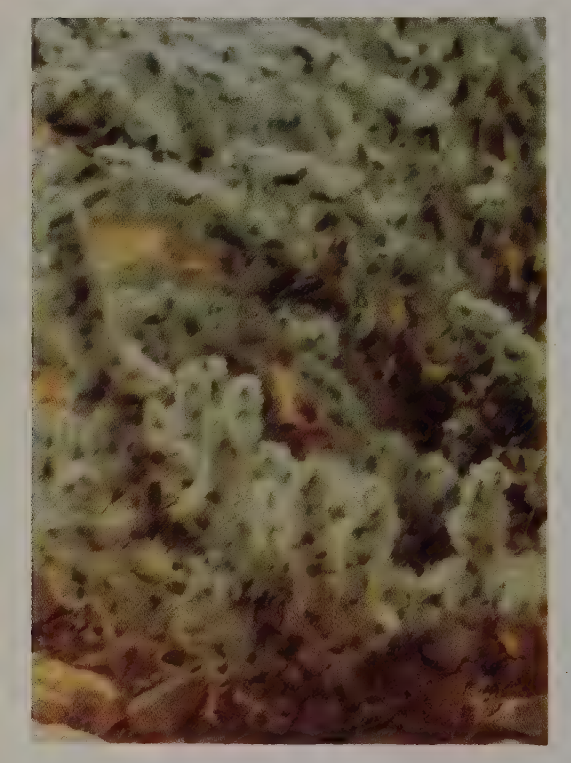
PLATE NO. 3:



Arthrocnemum glaucum



Atriplex leuclada



Bassia eriophora



Chenopodium murale

PLATE NO. 4:

L. nudicaulis (L.) Hook. f., Fl. Brit. India 3: 416 (1881).

Arabic: Hawa.

Annual herb 20 cm high. Rosette leaves spathulate, deeply lobed, serrate with white cage, lobes point backwards, 5–9 x 1–2 cm, margin serrate. Stem leaves few. Heads axillary and terminal, yellow. Involucre bracts with broad white margins in 2-3 rows, lanceolate, 0.5 cm long. Pappus white, persistent.

Flowering: February–April.

Habitat: Sandy soils.

Distribution: Wakra, north farm.

Uses: Leaves are said to be eaten by man and animals.

L. procumbens (Roxb.) Ramayya & Rajagopal. Kew. Bull. 23: 465 (1969).

Syn: L. fallax (Jaub. et Sp.) Ktze.

Perennial herb 40 cm high, rosette leaves oblong, spathulate, lobed, serrate, 8 x 2 cm. Heads yellow in clusters of 2-3. Involucre bracts with white margin. Pappus caducous. Achenes white to black, acute, 4-angles.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Southern Qatar at Abu Samra.

Uses: Eaten by all animals.

Matricaria L.

Matricaria auriculatum Boiss.

Arabic: Zafira, Dagiga.

Small slender annual herb 10–15 cm high. Branches erect, striate, glabrous ending with a capitulum. Leaves bipinnatesect, filiform, glabrous about 1 cm long, sessile, irregularly dissected. Heads terminal solitary, yellow, discoid in 10–15 cm long peduncles. Involucre bracts scarious. Achenes small 3-ribbed.

Flowering: April.

Habitat: Under shade of Acacia and Ziziphus trees in fine textured soils.

Distribution: Central and north Qatar, Shafalahia, north Government farm.

Uses: Grazed by sheep and goats, said to be eaten with stews.

Picris L.

Picris cyanocarpa Boiss.

Annual herb 10–30 cm high. Branches erect, pubescent. Leaves rosetted, oblanceolate, lobed, sessile and pubescent 5–8 x 1–1.3 cm; upper leaves alternate lanceolate, smaller 1–3 x 0.5 cm, sessile, acute, cuneate. Heads terminal, solitary, ligulate, yellow on pubescent peduncles 3–6 cm long. Involucre bracts one row, appressed pubescent. Achenes beaked, incurved, roguse. Pappus same length as achenes, white.

Flowering: March–April.

Habitat: Sandy saline soils.

Distribution: Southern Qatar and central parts in Karaana.

Uses: Probably grazed.

P. radicata (Forssk.) Less. Syn. 134 (1832).

Arabic: Hawzan, Hawazan.

Annual pubescent herb 15 cm high. Rosette leaves dense, deeply dissected, sessile with narrow lobes. Upper leaves narrow, linear. Heads 1.3 cm long. Achenes cylindrical curved. Pappus with a fringed cup.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Southern Qatar, Karaana, Abu Samra.

Uses: Grazed by animals.

Pulicaria *Gaertn.*

Pulicaria crispa (Forssk.) Benth. & Hook. f. Gen. Pl. 2:236 (1867).

Syn: Francoeuria crispa (Forssk.) Cass.

Arabic: Athiath, Gathgath.

Cushion shaped aromatic herb, 40–50 cm high. Branches numerous, ascending and corymbose above, white-pubescent. Leaves sessile, grey green, variable sizes, linear, 1–2 x 0.2 cm, toothed with undulating margin, white woolly to pubescent. Flowers yellow in solitary terminal heads, 0.5–1 cm, broad.

Flowering: March.

Habitat: On rain water depressions.

Distribution: Widely spread in Qatar.

Uses: Used for various medicinal purposes. Grazed by animals.

P. undulata (L.) Kostel. (1833).

Woolly annual herb 30 cm high. Leaves elliptic, woolly, toothed with a wavy margin, radical leaves oblong, woolly. Heads terminal. Rays twice as long as involucre bracts.

Flowering: March.

Habitat: Depressions.

Distribution: Widely spread all over central Qatar.

P. sicula

This plant has been reported by Dr. Obeid but not seen by the author.

Reichardia Roth.

Reichardia tingitana (L.) Roth.

Syn: Picridium tingitanum Desf.

Arabic: Murrer.

Erect or procumbent annual herb 10–30 cm high. Leaves radical or alternate, sessile, shape variable, lanceolate to oblong to spathulate, divided, denticulate or undivided, spathulate, denticulate, 5–9 x 2–3 cm. Base of upper leaves auriculate. Flowers heads yellow, 1.5 cm in diameter, terminal. Florets yellow with a purple base. Involucre bracts ovate, scarious on margins. Bristles of pappus united in a ring, white.

Flowering: March–April.

Habitat: Sandy depressions.

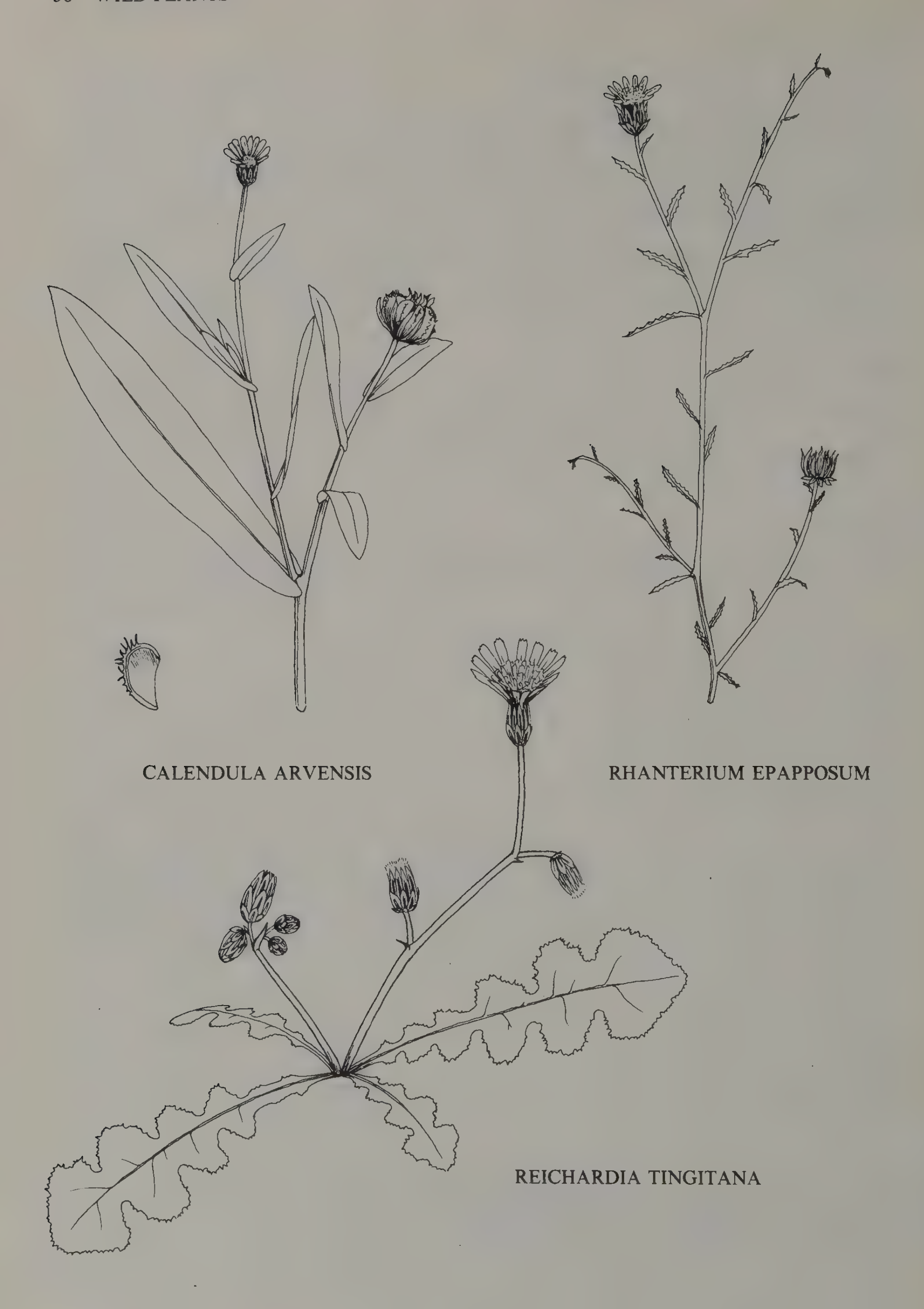
Distribution: In farms especially under date palms, central Qatar.

Uses: Grazed by animals.

Rhantarium L.

Rhantarium eppaposum Oliv., IcPl. (1367).

Arabic: Arfaj.


CALENDULA ARVENSIS
RHANTERIUM EPAPPOSUM
REICHARDIA TINGITANA

Shrublet, branched from the base 40 cm high. Branches whitish, pubescent. Leaves alternate, small, linear 1.5–3 x 0.3 cm, sessile, acute, cuneate, lobed, remotely dentate or entire. Flowers yellow in solitary terminal heads 1 cm in diameter. Pappus absent.

Flowering: April–July.

Habitat: Sandy soils.

Distribution: Southern sandy parts of Qatar, El Wakeir, Dukhan, Abu Samra.

Uses: Grazed by animals especially camels. Used as firewood by Bedouin.

Senecio L.

Senecio desfontainei Druce., Brit. Pl. list. ed. 2, 61 (1928).

Syn: Senecia coronopifolius Desf.

Arabic: Murreir.

Annual herb 15–20 cm high. Branches glabrous. Leaves fleshy, linear, deeply lobed, 3–5 x 0.3 cm, lobes obtuse, the upper ones sessile. Flowers yellow in terminal heads, 1 cm diameter. Involucre bracts in 2 rows, glabrous. Achenes oblong, 1.5 mm long. Pappus deciduous, white.

Flowering: March–April.

Habitat: Sandy soils on saline shores.

Distribution: El Wakra coast.

Uses: Grazed by animals.

S. vulgaris L., Sp. Pl., ed. 1, 867 (1753).

Annual herb 10–20 cm high. Branches striate, covered by leaf bases. Rosette leaves 5–10 x 3 cm, spathulate, short petioled, lobed, dentate, glabrous, upper ones sessile, auriculate, lobed. Heads in terminal or axillary clusters. Involucre bracts black-tipped, in two rows, the outer one small 1 mm long, the inner one 0.5 cm long, linear, acute. Achenes pubescent on ribs. Pappus white, persistent, 0.5 cm long.

Flowering: March–April.

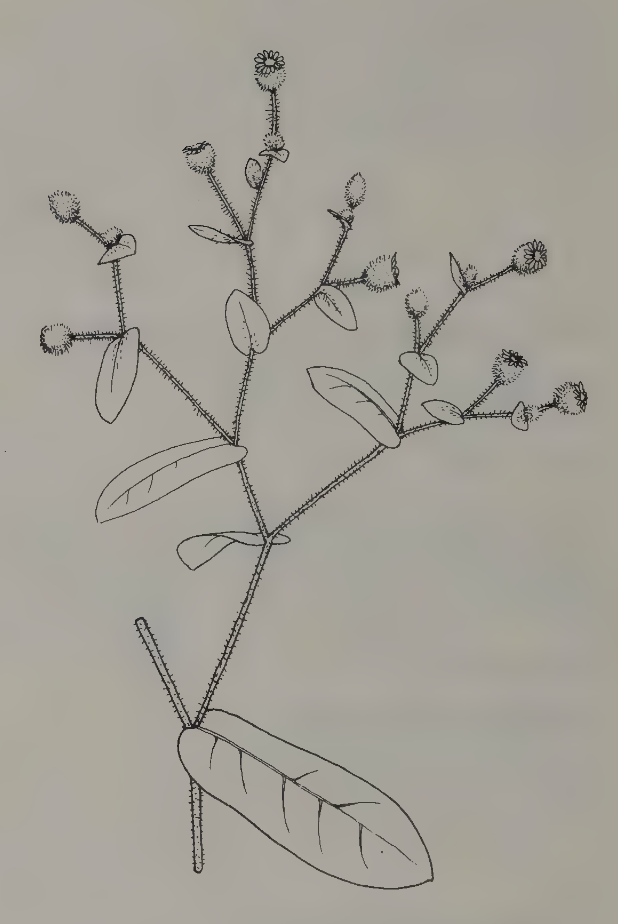
Habitat: Fine textured soils.

Distribution: Cultivated fields in rodat; Garden, Doha.

Uses: Grazed by animals.



IFLOGA SPICATA



VICOA PENTANEMA



FILAGO DESERTORUM

S. maritimus L., Syst. ed. 10. (1192).

Annual tall herb 1 m high. Branches erect, striate, green, pinkish, juicy with a milky latex. Leaves alternate, sessile, linear lanceolate, 15–20 x 1–2 cm, acute, auriculate, dentate and revolute; midrib prominent, glabrous. Heads terminal, solitary, 1 cm diameter, yellow. Involucre bracts two rowed, oblong, acute, glabrous. Pappus silky hairy.

Flowering: April -May.

Habitat: Light moist soils near irrigation canals.

Distribution: Northern Qatar. A farm near El Khor.

Uses: Grazed by animals.

Sonchus L.

Sonchus oleraceus L. Sp. Pl. ed. 1, 794 (1753).

Arabic: Odeid.

Annual glabrous herb, 40 cm high with erect glandular branches which exude a milky latex. Rosette leaves lyrate, 10–15 x 4 cm, irregularly lobed, alternate-toothed. Upper leaves less lobed, narrow, clasping on branches with pointed auricles. Flowers yellow in terminal heads 2–3 cm diameter. Involucre bracts in 3-4 rows. Flowers legulate. Achenes 3-ribbed, wrinkled. Pappus white 5–8 mm long.

Flowering: March–April.

Habitat: Irrigated light soils.

Distribution: Weed in cultivated fields.

Uses: Grazed by animals and eaten by man as a vegetable.

S. tennerrimus L., Sp. Pl. 794 (1753).

Annual or biennial herb, 30 cm high. Leaves alternate, 10 x 4 cm. Lower rosette leaves deeply lobed and toothed not lyrate. Upper ones narrow, clasping with auricles on branches. Lobes lanceolate. Flowers yellow terminal in few-headed panicles. Involucre bracts black. Achenes 1 x 0.3 cm, obovate, many striate.

Flowering: April–May.

Habitat: Light silty soils near water canals.

Distribution: In cultivated lands.

Uses: Grazed by animals.

Vicoa Cass.

Vicoa pentanema Aitch. & Hemel. Rech., Fl. Lowland Iraq. 605 (1969).

Annual herb 20 cm high. Branches purplish branching from base, densely pubescent. Leaves membraneous, sessile, ovate oblong, 3–4.5 x 1 cm, acute, rounded, entire, white pubescent at base. Heads yellow, axillary or terminal, numerous 7 mm diameter on 0.5 cm long peduncles. Involucre bracts densely woolly, linear–lanceolate. Pappus 5, stiff, twice or three times as long as the achene.

Flowering: March–April.

Habitat: Shallow moist soils in rodat.

Distribution: Cultivated lands, Shafalahia, Doha-El Khor road.

Uses: Grazed by animals.

Xanthium L.

Xanthium spinosum L., Sp. Pl. 987 (1753).

Many branched perennial herb 30–50 cm high. Spines in threes, filiform, 2.5 cm long, light yellow brown under leaf axil. Branches striate, pubescent. Leaves alternate, grey white, deeply lobed, 10 x 4 cm, acute, base cuneate, covered with hooked bristles. Terminal lobe long, acute. Heads solitary, axillary, forming an elliptic fruit with bristles, 1 cm long.

Flowering: June.

Habitat: Road sides and dry open places.

Distribution: On cultivated fields in the north, North Government farm.

Uses: Grazed by animals.

CONVOLVULACEAE

Convolvulus L.

Convolvulus arvensis L., Sp. Pl. ed. 1, 153 (1753).

Arabic: Olleig.

Climbing or prostrate perennial herb. Stems prostrate or twining. Leaves simple, alternate, hastate, lanceolate to ovate-oblong, 4–7 x 2–3 cm, glabrous, apex obtuse, base sagittate to hastate, margin entire. Petiole shorter than leaf 2–3 cm long. Flowers 1–3. white to pink, 2–4 cm long on 3–4 cm peduncles. Pedicels 2–3 cm long. Calyx 5-lobed,

glabrous, margin scarious, 0.5–1 cm. Petals 5, 2–3 cm long, white or pink, funnel-shaped. Ovary glabrous. Fruit capsule brown, glabrous, ovoid-globose, 0.8 mm in diameter. Seeds 4, dark brown or black, 0.4 mm long.

Flowering: All year round.

Distribution: In gardens and cultivated rodat, central Qatar, El Khor.

Uses: Grazed by animals.

C. ***cephalopodus*** Boiss. Diagn. Plant. Ov. Nov. 1, 7: 24 (1846).

This plant has been reported by Batanouny as a new record in Qatar but not seen by the author.

C. ***desertii*** Hochst. & Steud., Herb. Un. Itin. (1937).

Arabic: Hazmi

Perennial trailing and erect plant, 70 cm high. Stems green, glabrous or subglabrous. Lower leaves lanceolate or oblanceolate, 4 x 1 cm, acute, cuneate, entire, glabrous; upper leaves smaller, linear 0.5 x 0.1 cm, acute, cuneate, glabrous. Flowers in 1–2 flowered clusters, axillary. Peduncle 2–3 cm, glabrous. Sepals 5-lobed, pink or white, twice as long as sepals. Capsule brown, globose. Different from ***C.microphyllus*** by the latter having brown, villous indumentum on stems, peduncles and flowers.

Flowering: March–April.

Habitat: On gravelly soils on runnels.

Distribution: Central Qatar.

Uses: Grazed by animals.

C. ***fatmensis*** Kunze., Fl. Alleg. Bot. Zeich. 23, 1: 172 (1840).

Annual trailing herb. Stems pubescent, twining. Leaves alternate, ovate to deltoid 3–5 x 3–4 cm; petiole 3–4 cm long, sometimes longer than leaf, apex obtuse, base cordate, margin lobed or crenate, glabrous or finely pubescent. Flowers axillary, 1-2; peduncles not exceeding the leaf length, 1.8 cm long. Flowers white to pale pink, 1 cm long. Calyx 5 pubescent. Petals 5, pubescent outside with brown stripes. Capsule globose, brown, 4 cm diameter. Seeds black.

Flowering: March.

Habitat: Fine textured soils.

Distribution: Cultivated rodat.

Uses: Grazed by animals.



CONVOLVULUS PILOSELLIEFOLIUS

*C. **glomeratus*** Choisy. in DC. Prodr. 9: 401 (1845).

Syn: C. arabicus.

Trailing perennial herb, pubescent, subglabrous. Leaves alternate, obovate to oblong-lanceolate, 3 x 1.5 cm, pubescent below, apex acute, base rounded to cordate. Petiole 0.5 cm long. Flowers axillary white-pinkish in dense heads. Peduncle 3–6.5 cm long, pubescent. Calyx 5-lobed, pubescent. Corolla white-pinkish, 5 lobed, 1.2 cm long, brown tomentose. Capsule brown, glabrous.

Flowering: March.

Habitat: On light soils on wadis.

Distribution: On cultivated rodat.

Uses: Grazed by animals.

*C. **pilosellifolius*** Desr. in Lamb. Encycl. 3: 551 (1789).

Arabic: Rukheima, Hathmi, Khatmi, Melbo.

Perennial prostrate or trailing plant, branches pubescent, branching from base. Stem leaves lanceolate 5–7 x 3.5 cm, petiolate, pubescent, apex acute, margin wavy, pubescent, the upper leaves sessile, lanceolate, smaller, 2–3 x 1–2 cm. Flowers 1–5, axillary on upper half of the stem. Peduncle 4–5 cm long, pubescent. Calyx 5-lobed, ovate, pubescent. Corolla 5-lobed, 1–1.2 cm long, pubescent. Capsule ovoid, glabrous, brown.

Flowering: March–May.

Habitat: Deep sandy soils.

Distribution: Common on rodat in central Qatar.

Uses: Grazed by animals and eaten as a salad, cooked with rice as a flavour.

*C. **prostratus*** Forssk. Fl. Aegypt. – Arab. 203 (1775).

Perennial herb 10 cm long. Stems brown-villous. Leaves oblong-lanceolate, 1–5 x 0.5 cm long, acute, cuneate, entire. Lower leaves narrowly spathulate, 2–5 cm long. Flowers pale pink-coloured, 1–3. Peduncles 2–3 cm, brown, villous. Calyx 5-lobed, brown, hairy, pointed. Corolla pink, 7 cm long, pubescent outside. Fruit capsule brown.

Flowering: March–May.

Habitat: Gravelly soils in runnels.

Distribution: Central Qatar.

Uses: Grazed by animals.

Cressa L.

Cressa cretica L., Sp. Pl., ed. 1, 223 (1753).

Arabic: Nedewa.

Erect bushy pubescent plant, 10–30 cm high. Leaves small, sessile, ovate to lanceolate 0.2–0.9 x 0.1–30 cm, apex acute, cuneate or rounded at base, densely pubescent, entire. Flowers terminal on branches. Calyx ovoid 0.3–0.4 cm long, pubescent. Corolla white, 5-lobed, 0.5 cm long. Stamens 5, red, longer than corolla lobes. Sepals 5. Petals 5. Capsule ovoid 0.3 cm long.

Flowering: March–May.

Habitat: Fine compact, saline, sandy soil.

Distribution: Common all over country near coasts, especially in the northern coasts.

Uses: Grazed by sheep and goats.

Cuscuta L.

Cuscuta pedicellata Ledeb., Fl. Atl. 1: 293. 1 con. Tab. 234 (1829).

Parasitic annual leafless herb. Stems twining, thready, yellowish, glabrous. Flowers small 1 mm in diameter in umbellate clusters of 4-8 flowers. Segments 4. Fruit a capsule.

Flowering: April.

Habitat: Twiner on agricultural fields.

Distribution: On moist cultivated fields on many hosts including Ziziphus, Alfafa, Prosopis, Chenopodium species.

Uses: Harmful to agricultural fodder crops.

CRUCIFERAE

Anastatica L.

Anastatica hierochuntica L., Sp. Pl., ed. 1, 641 (1753).

Arabic: Khuf Meriam, Khaff, Khaf El Azra.

Annual decumbent prostrate herb, stellate, canescent. Stems when dry become woody and roll inwards into a globe. Leaves obovate to spathulate, 4 x 2.5 cm, dentate on the upper half, apex obtuse to acute, base cuneate. Flowers in racemes in the central part of the plant between branches, white, creamy, sessile. Calyx 4, stellate-hirsute, 2 cm long.

Corolla 4 cm long. Fruits ovoid 0.5 x 0.4 cm, stellate-hirsute, surrounded by the woody stems which when moistened roll back and expose fruits for the rains.

Flowering: March–April.

Habitat: On gravelly or sandy depressions.

Distribution: Common all over Qatar.

Uses: Decoction of the plant is used as a charm for expectant mothers.

Brassica L.

Brassica arabica (Fisch. & Mey) Fiori., Tackh. Stud. Fl. Egypt. ed. 2. 190 (1974).

Arabic: Ginah El Ghorab.

Annual herb 40 cm high. Stems glabrous. Leaves not rosetted, lyrate, 8 x 3 cm, lobed. Flowers yellow, small on terminal racemes. Petals clawed. Fruit siliqua, beaked, constricted. Seeds on one side.

Flowering: March–April.

Habitat: On high soils.

Distribution: Cultivated fields.

B. rapa L., Sp. Pl. 666 (1753).

Arabic: Shaltam, Garras.

Annual herb 50 cm high. Leaves rosetted. Lower leaves pubescent, lyrate, lobed, apex rounded, 8 x 3 cm. Upper leaves ovate-lanceolate, sessile, crenate, acute. Flowers small, yellow in terminal racemes. Petals small 0.8 cm long. Fruits silique, lanceolate, beaked, opening by two valves.

Flowering: March–April.

Habitat: On light soils.

Distribution: Weed of cultivation.

B. tournefortii Gouan., Illust. Observat. Bot. 44, t. 20A (1773).

Arabic: Shaltam, Garras.

Erect annual herb 30–50 cm high. Rosette leaves lyrate, 10–30 x 5–8 cm, deeply lobed, toothed with hispid margins, upper leaves small, oblong-linear, hispid. Flowers

on terminal and axial racemes, yellow, 10-20 flowered. Calyx 4-lobed, 0.4 cm long, green. Corolla 4-lobed, clawed. Fruit linear siliqua, beaked, 3–6 x 0.3 cm.

Flowering: March–April.

Habitat: Light disturbed soils.

Distribution: Weed of cultivated fields.

Uses: Grazed by animals.

Eruca Mill.

Eruca sativa Mill., Gard. Dict. ed. 8. no.; (1768).

Arabic: Girgir.

Annual fleshy herb 20–40 cm high. Stems green, soft, striate, pubescent below. Lower leaves 10–20 cm long, petiolate, lyrate, irregularly lobed, sometimes rosetted. Upper leaves sessile, shorter, serrate. Flowers white in terminal racemes. Petals 4-lobed, white to whitish yellow, veins dark, clawed. Siliqua brown, 3 cm long, beak 1.5 cm long. Seeds pale brown, 1.5 mm long.

Flowering: January–June.

Habitat: Light soils.

Distribution: Cultivated in gardens.

Uses: A popular salad.

Erucaria Gaertn.

Erucaria hispanica (L.) Druce. F. T. I. 274–275

Arabic: Kromb El Sahra

Annual glabrous herb 40 cm high. Lower leaves oblong-linear, 5 x 0.2 cm, bipinnatesect, lobes acute. Upper leaves linear, entire. Flowers white to reddish-mauve, obovate, scented. Corolla 4-lobed, clawed, mauve. Fruits with turulose 2 joints, upper one twice as long as lower, lower one many seeded; surface striate, 1–1.5 cm long.

Flowering: March–April.

Habitat: Rodat soils.

Distribution: Common in northern rodat, found in road from Doha to Um Salal Ali.

Uses: Grazed by animals.

Farsetia Turra.

Farsetia hamiltonii Royle Ill. Bot. Hamil. 1: 71 (1834).

Syn: F. linearis Decne.
F. arabica Boulos.

Perennial herb, woody at base, 10–30 cm high. Branches grey, pubescent. Leaves linear, entire, 3 x 0.3 cm, acute, cuneate, grey-white, pubescent. Flowers white or pink on terminal racemes. Calyx 4, lobed, grey-pubescent, lanceolate, 0.5 cm long. Petals clawed, 0.7 cm long. Siliqua 2–3.5 cm long, oblong-linear, flattened, grey outside, yellow inside. Seeds with broad wings.

Flowering: March–May.

Habitat: Stony grounds in depressions.

Distribution: Shahania, Wakeir, Wadi El Galael.

Uses: Grazed by animals.

Mathiola R. Br.

Mathiola longipetala (Vent.) DC. Reg. Veg. Syst. Nat. 2: 174 (1821).

Annual herb, 30–40 cm high. Stem striate, glandular, hairy. Leaves grey, lanceolate or spathulate, rosetted, 6 x 2 cm, lobed or entire, obtuse, subsessile, densely grey-tomentose. Flowers solitary on apical axils,sessile. Calyx 4-lobed, 0.5–1 cm long, green-pinkish. Corolla longer than sepals, 4-lobed, sometimes long-undulating. Fruit linear 3–5 cm long x 0.1 cm ending with 2 styles, 0.2 cm long.

Flowering: April.

Habitat: On sandy and stony grounds.

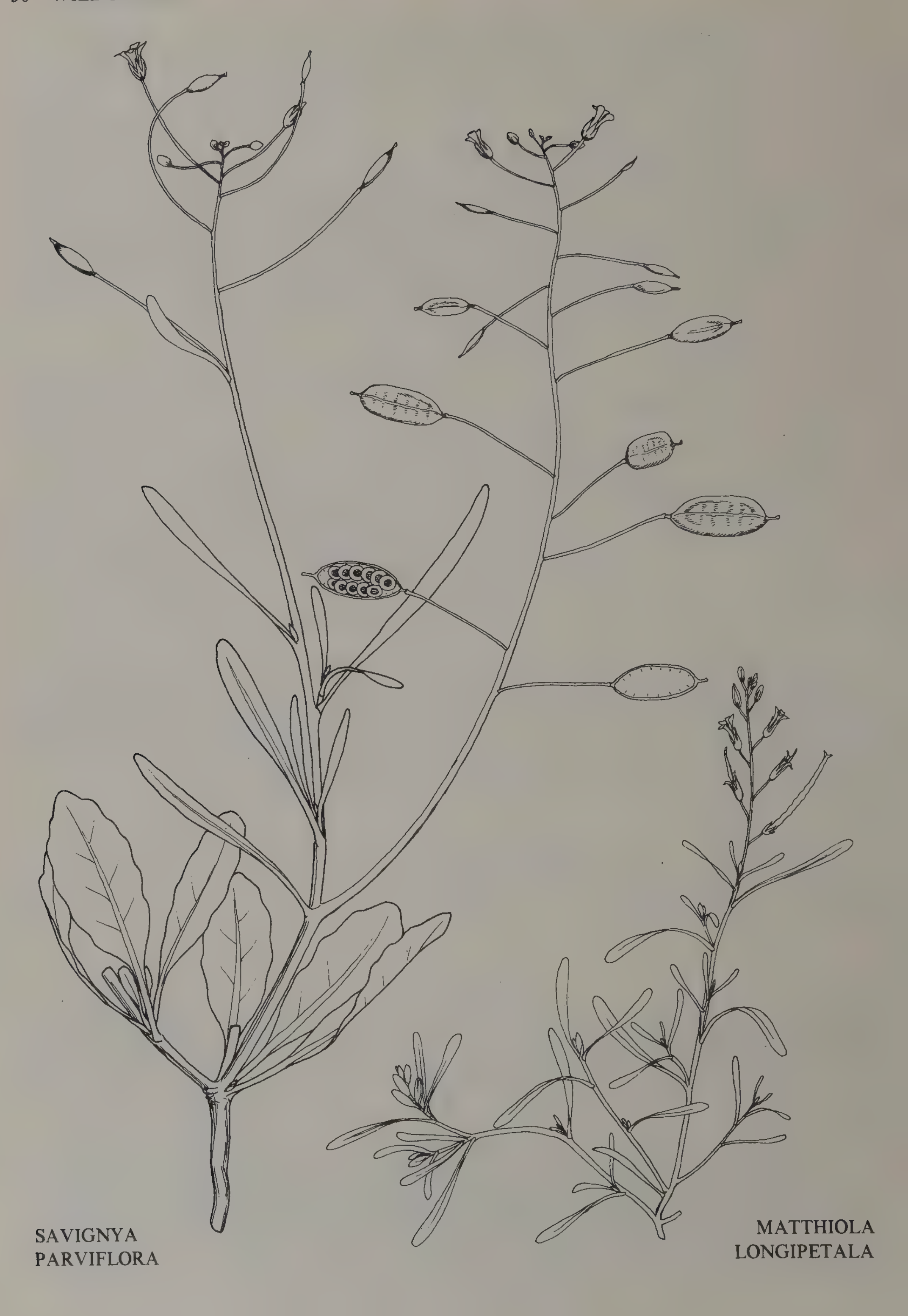
Distribution: Wakra and Salwa.

Raphanus L.

Raphanus sativus L., Sp. Pl. ed. 1, (1753).

Arabic: Fijil.

Annual herb up to 90 cm high with fleshy white tuberous roots with a strong smell. Leaves lyrate, pinnatisect, fleshy veins reddish 15–25 x 0.5–7 cm. Flowers white, yellow or violet on terminal and axillary racemes. Calyx dull brown. Petals obovate, mauve, veined purple. Anthers yellow. Pistil green. Fruits 2 joints, 3–6 x 2 cm, beaked. Pedicel 3 cm long. Seeds brown, 0.3 mm long.


SAVIGNYA
PARVIFLORA
MATTHIOLA
LONGIPETALA



Cornulaca manocautha



Halopeplis perfolata



Haloxylum salicornicum



Hamada elegexinc

PLATE NO. 5:


Salsola baryosoma


Suaeda vermiculata


Helianthemum lippii


Asteriscus pygmaeus

PLATE NO. 6:



Atractylis carduus



Centaurea sinaica



Conyza bonariensis



Conyza maritima

PLATE NO. 7:



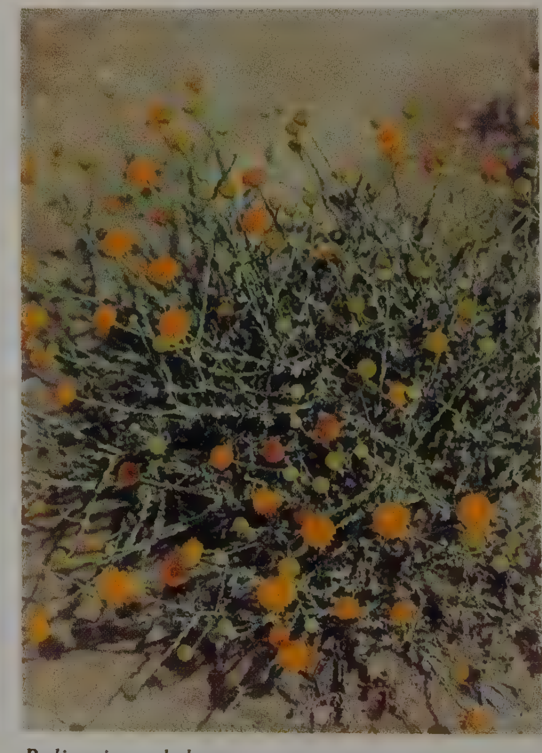
Gymnarrhenia micrantha



Launaera capitata



Picris radicata



Pulicaria undulata

PLATE NO. 8:

Flowering: March–April.

Habitat: Soft worked soils under irrigation.

Distribution: Cultivated fields.

Uses: Tuberous roots and leaves are eaten.

Savignya DC.

Savignya parviflora Webb. ap. Parl. Fl. Aethiop. – Aegypt. in Parlatore Giorn. Bot. Ital. 2: 215 (1847).

Syn: S. aegyptiaca DC.

Arabic: Gongolan, Gulglan, Girgees.

Annual herb, 30 cm high with numerous stems arising from the base. Rosette leaves lobed, subfleshy, 5 x 0.3 cm, obovate to spathiolate. The upper ones are linear 2–4 x 0.3 cm. Flowers white or mauve on terminal racemes, 4-merous. Pedicels 3 cm long. Siliqua flat, straw coloured, elliptic, membraneous, 1.5–2 x 1 cm. Seeds brown, rounded with a rounded wing.

Flowering: January–April.

Habitat: On sandy soils.

Distribution: Southern Qatar, Abu Samra, Um Bab.

Uses: Grazed by animals.

Schimpera Hochst. ex Steud.

Schimpera arabica Hochst. & Steud. in Schimp. Pl. Arab. Exsicc. No. 244 (1835).

Syn: S. persica Boiss.

Arabic: Suffar.

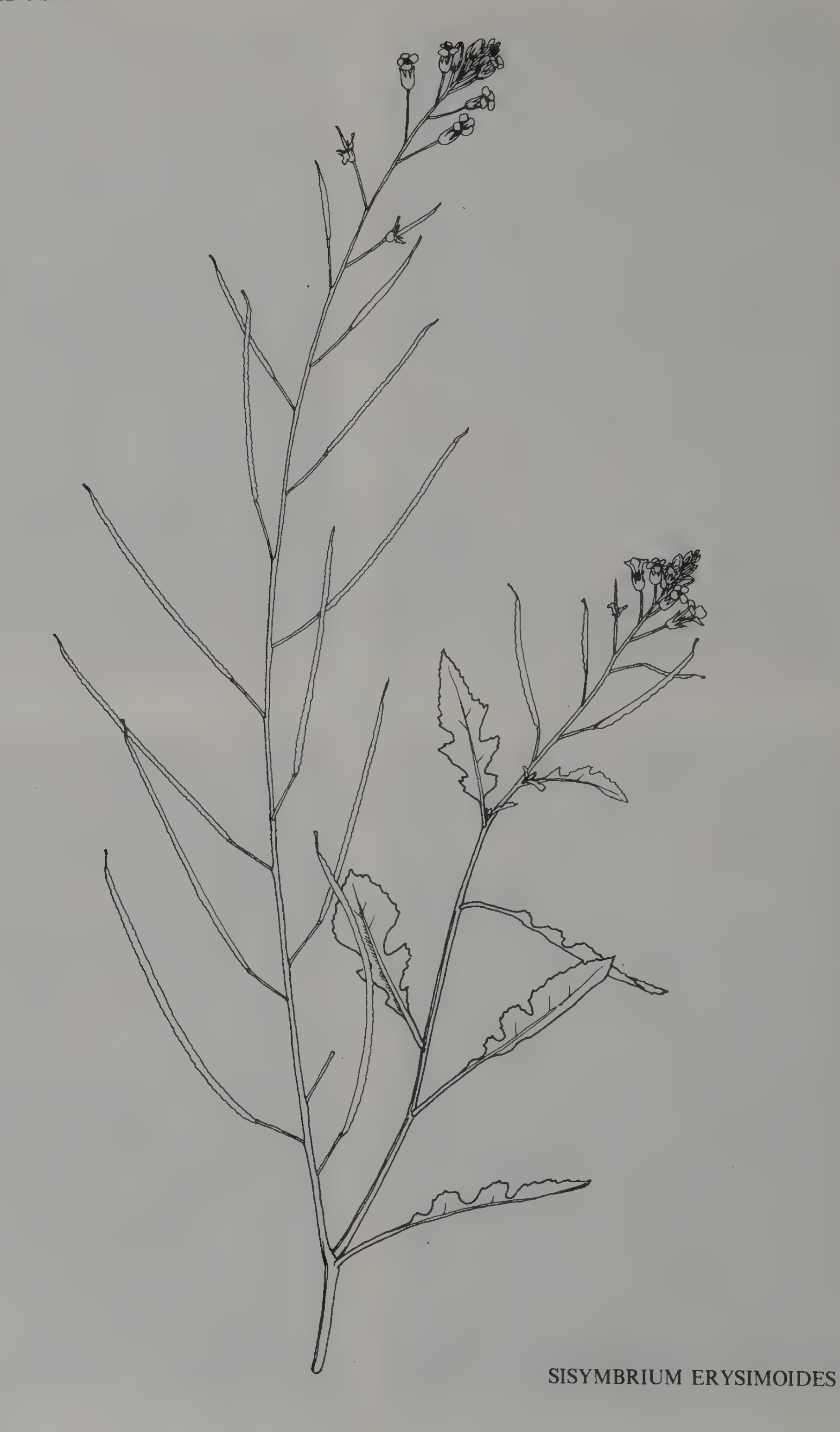
Annual herb 30 cm high. Lower leaves lyrate, pinnatifid 10–20 cm x 2–4 cm, midrib pubescent. Upper leaves simple, sagittate. Flowers yellow on terminal racemes. Siliqua ovate, 0.5 cm long, indehiscent ending with an oblique rostrum, 3 times the pod length. Seeds pendulous.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Rare in south Qatar.

Uses: Grazed by camels, goats and sheep.



SISYMBRIUM ERYSIMOIDES

Sinapis L.

Sinapis arvensis L., Sp. Pl. ed. 1: 668 (1753).

Annual erect herb, 60–100 cm high. Stem striate, purplish. Lower leaves lyrate, lobed, petiolate, 10–3 cm. Lower leaves simple, ovate, sessile, toothed. Flowers in naked racemes, yellow. Calyx 4-lobed, 0.4 cm long. Corolla 4; lobed, 1 cm long, clawed. Stamens 6. Silicua linear, beaked, 3-7 nerved, 4 cm long, glabrous. Beak as long as fruit. Seed dark brown, single.

Flowering: March–April.

Habitat: Soft cultivated soils.

Distribution: Rare in gardens and lawns.

Sisymbrium L.

Sisymbrium erysimoides Desf., Fl. 2 Itl. 2: 84 (1798).

Syn: Pachypodium erysimoides (Desf.) Webb. & Berth.

Arabic: Thuwat.

Annual glabrous herb 30 cm high. Stems numerous, erect. Lower leaves lyrate, petiole 4 cm long, leaf about 12 cm x 4 cm, lobed. Upper leaves lyrate, short-petioled, apex acute, 5 cm long. Flowers yellow in many flowered terminal racemes. Petals yellow, spathulate. Fruit 3–6 cm long, linear, 3-nerved. Seeds many, yellow, brown.

Flowering: February–April.

Habitat: In loose sandy soils under Ziziphus stands.

Distribution: Northern & central Qatar.

Uses: Grazed by animals.

S. irio L. Sp. Pl. 659 (1753).

Annual herb 30–40 cm high. Branches green, striate. Leaves rosetted, lyrate, deeply dissected, lobes acute, 8 x 3 cm. Petiole 3 cm long, flattened. Upper leaves smaller, lanceolate. Flowers on terminal racemes, yellow. Pedicel 2 cm. Calyx 4-lobed, dark green. Corolla 4-lobed yellow, oblanceolate. Fruit siliqua linear, straight, 3.5–5 x 0.1 cm, brown. Seeds more than 20, brown.

Flowering: April.

Habitat: Irrigated soils.

Distribution: In central Qatar in cultivated rodat.

Uses: Grazed by animals.

Zilla Forssk.

Zilla spinosa (Turra.) Prant. in Engl. & Prantl., Nat. Pfl. 3, 2: 174, f. 112 (1891).

Arabic: Silla, Shaga.

Thorny shrub, 30–40 cm high, dichotomously branched. Branches green, turning yellow-white, striate, ending with a pair of forked spines 2–2.5 cm long with a yellow tip. Lower leaves rosetted, spathulate, irregularly lobed, 1–6 x 0.5–2 cm. Upper leaves smaller, oblong to linear. Leaves usually deciduous leaving the forked spines on branches. Flowers pink to pale mauve, 4-merous. Fruits globular, rogose, 0.5 cm diameter, terminating in a spiny beak, ribbed with wrinkles between ribs.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Limited to southern borders.

CUCURBITACEAE

Citrullus Eckl. & Zeyh.

Syn: Colocynthis vulgaris Schrad.

Arabic: Sherri, Hanzal.

Prostrate trailing perennial herb. Roots woody, tuberous, deep. Stems angled, pubescent, scabrid. Leaves ovate, 3–10 x 2.5–6 cm, deeply lobed, lobes lobulate, scabrid punctate, hairy, palmately 3–5 lobed, tendrils present. Petiole 1–6 cm long, rough, hairy. Male flowers on pedicels 1–2 cm long. Female flowers on peduncles 4 cm long. Petals yellow, 0.8 cm long. Fruits spherical on stalks, 5–6 cm long, smooth, mottled with dark green turning yellow when ripe, bitter in taste, 5–12 cm in diameter. Seeds ovate, 0.6–1 x 3–5 cm.

Flowering: May–July.

Habitat: Compact sandy soils in depressions.

Distribution: Southern parts of Qatar.

Uses: Fruits are used for various medicinal purposes and seeds yield a tanning material for water skins. The Arabs use the ripe fruit, charred in the fire and pulverised to prepare gunpowder.



CHROZOPHORA TINCTORIA

Cucumis L.

Cucumis prophetarum L., Cent. 1: 32 (1755).

Arabic: Heidog, Heneithlan, Howeizan.

Prostrate perennial climbing or trailing herb 2 m high. Branches numerous, whitish grey, hispid, angular, scabrid. Leaves whitish grey, ovate to suborbicular, 3-5 lobed, palmate 2–8 cm long, hairy. Opposite leaf modified into a tendril, nerves prominent. Flowers monoecious, yellow. Male flowers solitary or fascicled, 1-6 flowered. Pedicel 2.5 cm long. Female flowers on 0.6–3 cm pedicels, solitary. Fruit globose to subglobose, 1.5–6 cm diameter on stalk 0.8–4 cm long, with 10 longitudinal stripes alternating with white ones, spinose, spines 3 mm long. Ripe fruit yellow, many seeded. Seeds elliptic, smooth, compressed, 0.5–0.2 cm.

Flowering: April–May.

Habitat: Gravelly soils.

Distribution: Southern Qatar, Karaana.

EUPHORBIACEAE

Andrachene L.

Andrachene telephoides L., Sp. Pl., ed. 1, 1014 (1753).

Arabic: Huweimda

Prostrate perennial herb 20 cm long with numerous stems, bristly, hairy all over, bristles with basal glands. Leaves close together in the stem, alternate, petiolate, obovate to suborbicular, 1–2 x 1–1.5 cm, rounded apex to acute, base cuneate, minutely serrulate, stipulate. Petiole 6 mm long. Flowers monoecious, solitary or fascicled, white, small axillary 1-3 sepals, white margined, ovate rhomboid. Petals lanceolate. Anthers 4-lobed. Capsule glabrous 4 mm in diameter, globose.

Flowering: March–May.

Habitat: Stony and gravelly grounds.

Distribution: Common in Qatar.

Chrozophora Neck.

Chrozophora tinctoria (L.) Ref., Chlor. Aetn. 4 (1813).

Syn: C. obliqua (Vahl.) A. Juss.
C. oblongifolia A. Juss.

Annual or perennial white, stellate pubescent herb, woody at base, 30–50 cm high. Leaves ovate-rhombic, lobed, 3–7 x 1–5 cm, obtuse to acute, entire to denticellate, cuneate to rounded at base, biglandular at the base, thinly and coarsely stellate-pubescent above, more densely below. Petiole 9 cm long, pubescent. Stipules filiform, 5 mm long. Inflorescence in short peducled racemes, dense lying in or near forks of the dichotomous stems. Flowers yellow white, monoecious, covered with paltate scales. Capsule blue-purple, 3-lobed, 8 mm diameter, warty, covered with peltate white scales with fringed denticulate margins.

Flowering: April–May.

Habitat: Sandy and gravelly wadi beds.

Distribution: Central and west of Qatar; Karaana-Doha.

Uses: Not liked by animals. Blue stain is derived from fresh roots.

Euphorbia A. Juss.

Euphorbia dracunculoides Lam.

Arabic: Lebeina, Libna.

Annual prostrate herb 30–40 cm long. Stem slender, glabrous, milky. Leaves opposite, linear, 2.5 x 0.3 cm, entire or serrulate, apiculate, sessile. Flowers axillary, pseudoumbels, 3-rayed, 0.1 cm diameter. Capsules 3 mm diameter. Pedicels 3–6 cm long. Seeds 2 mm long, ovoid cylindric, grey mottled with darker grey in depressions.

Flowering: March.

Habitat: On disturbed soils.

Distribution: Rodat, central Qatar.

E. granulata Forssk. Fl. Aegypt. – Arab. 94 (1775).

Arabic: Lebeina.

Prostrate herb, greyish-velvety. Stems pinkish, milky. Leaves opposite, various sizes, 1 x 0.5 cm, elliptic to obovate, obtuse oblique at the base, entire. Stipules minute, subulate. Flowers axillary, subsessile. Capsule obovoid 1.5 mm in diameter. Seeds pitted, 1 mm long, ovoid, cylindric, quadrangular, regular.

Flowering: March.

Habitat: Sandy and gravelly grounds.

Distribution: Common in central Qatar.



FRANKENIA PULVERULENTA

E. hirta L. Sp. Pl. ed. 1, 458 (1753).

Arabic: Labna.

Annual prostrate or erect herb. Stems villous, hispid especially at nodes. Leaves opposite, rhombic-lanceolate, 1.5–3 x 1 cm, acute, asymmetrically cuneate. Stipules membraneous. Flowers in axillary heads, 1 cm diameter in dense bracteate, pedunculate clusters. Peduncle 1 cm long. Capsule 1.3 mm long, globular, hirsute. Seeds wrinkled, 0.5 mm, quadrangular.

Flowering: April.

Habitat: Clay soils.

Distribution: Cultivated rodat.

E. peplus L., Sp. Pl., ed. 1, 456 (1753).

Erect annual herb 40 cm high. Stems glabrous, green. Leaves alternate, or subopposite. Cauline leaves ovate, rounded, cuneate, 2.5 cm long. Petioles 1 cm long. Flowers in pseudoumbels, 3-rayed. Capsule 2-winged, glabrous. Seeds furrowed, 1.5 mm, ovoid, hexagonal, pale grey, pitted.

Flowering: March.

Habitat: Disturbed soils.

Distribution: Rodat.

E. prostrata Ait., Hort. Kew. 2: 139 (1789).

Similar to ***E. granulata*** but the leaves are serrulate and symmetrical and no prominent white petaloid appendages. The capsule is pubescent along the keel.

Flowering: March.

Habitat: Sandy depressions.

Distribution: Central rodat.

FRANKENIACEAE

Franckenia L.

Frankenia pulverulenta L., Sp. Pl. ed. 1, 333 (1753).

Arabic: Moleih, Homra.

Small procumbent annual herb, 10–30 cm high. Branches reddish, forking, spreading, pubescent or glabrous. Leaves fleshy, flattened in whorls of 4, obovate-oblong or elliptic, turning reddish, 1 cm long, sessile, acute to obtuse, cuneate. Flowers axillary, solitary, sessile. Calyx tubular 5-lobed, pink, serrate, ciliate. Corolla 5-lobed, violet, pink 0.5 cm long, suborbicular, dentate. Stamens 6 in 2 whorls, yellow. Capsule ovoid, 3 mm diameter, 3-valved. Seeds ovoid, 0.6 mm long, flattened, grooved, shortly papillose.

Flowering: February–May.

Habitat: In saline and light sandy soils on hills and depressions.

Distribution: Common in rodat, North Government Farm, Watera.

Uses: Grazed by animals. Can be used in lawns and rock gardens.

GERANIACEAE

Erodium L'Herit.

Erodium glaucophyllum (L.) L'Herit., in Ait. Hort. Kew. ed. 1, 2: 416 (1789).

Arabic: Timmair, Kibbaisha, Ejair.

Perennial herb 30–50 cm high. Stems prostrate or erect arising from base, green or tinged with red with thick roots. Stipules, 3–4 x 2–2.5 cm, acute, cordate to cuneate, dentate, glabrous, lobed towards the base. Petiole 3–8 cm long, green to pink, glabrous. Flowers in umbels, 3-flowered. Peduncle 2–2.5. Pedicel 0.5 cm. Sepals 5-lobed, hairy, striate, with a membraneous margin. Petals 5-lobed, purple, 1 cm long. Fruit 5 mm long, 2-furrowed. Beak 8 cm long, brown-plumose.

Flowering: March–April.

Habitat: In depression in Rodat.

Distribution: Common in Qatar; Wakra, Karaana. Dukhan.

Uses: Grazed by animals.

E. laciniatum (Cav.) Willd. Sp. Pl., ed. 3, 633 (1800).

Arabic: El Karsh, Ejair.

Annual prostrate or erect herb, 30–50 cm high. Leaves opposite on upper branches or rosetted, cordate-ovate, lobed below and pinnatisect above. Petiole up to 6 cm long. Flowers axillary, umbellate up to 5-flowered. Peduncle up to 6 cm long. Pedicel 1 cm long. Calyx 5-lobed, mucronate, scarious on margins, pubescent. Corolla 5-lobed purple. Beak 4–7 cm long. Fruit with a beak 4–5 cm long, dehiscing upwards.

Flowering: March–April.

Habitat: Sandy and loamy depressions.

Distribution: Common in rodat in central Qatar.

Uses: Grazed by animals.

E. oxyrrhynchum M. Bieb. Fl. Tanr. Cauc. 11: 133 (1808).

Syn: Erodium bryoniaefolium Boiss. Diadn. Ser. 1, 1: 61 (1843).

Arabic: Dahma, Um Grain.

Prostrate annual herb 30 cm high. Leaves opposite, greyish, ovate, acute, base rounded or cordate, dentate with white appressed hairs, 5 x 2–3 cm. Petiole 2 cm long. Flowers axillary, umbellate; bracts pubescent. Calyx 5-lobed, membraneous, mucronate, 5 mm long, densely tomentose. Corolla 5-lobed, pubescent, purple. 1 cm long. Style hairy, splitting spirally at maturity. Pedicel 2–2.5 cm long. Fruit 4 mm long, furrowed. Beak 8–12 cm long, feathery.

Flowering: March–April.

Habitat: Rodat soils.

Distribution: Northern Qatar.

Geranium L.

Geranium molle L., Sp. Pl. ed. 1, 632 (1753).

Decumbent annual herb 10–30 cm high with a woody thick root. Stems pubescent, erect, branched from base. Leaves orbicular to reniform, 5–6 cm diameter, palmate 5-9 fid, each lobe further divided into 3 lobes, lobed, margin dissected, lobe apices apiculate, pubescent. Upper leaves smaller and more deeply lobed. Petiole 4–7 cm long. Flowers umbellate, axillary in twos. Peduncle 1 cm long, pubescent. Pedicel 0.5–1 cm long, pubescent. Calyx pubescent, 5-lobed. Corolla 5-lobed, pink-purple. Style 5, united. Fruit schizocarp, 2 cm long, grooved. Beak 8 cm long in curving upwards when dehiscing.

Flowering: March–April.

Habitat: In depressions in rodat, prefers shady places.

Distribution: North and south Qatar in rodat depressions or runnels.

Uses: Grazed by animals.

Monsonia L.

Monsonia heliotropiodes (Cav.) Boiss., Fl. Orient. 1: 897 (1867).

Arabic: Dahma.

Annual erect pubescent herb, 40 cm high. Leaves rosetted, ovate-cordate, 3–6 x 3 cm, acute, cuneate, pubescent, dentate, nerves deeply impressed. Petiole 4–9 cm long, pubescent. Upper leaves lie horizontally, grey pubescent. Flowers umbellate, axillary with a long pubescent peduncle 10–12 cm long. Pedicels 3 cm long, Calyx 5-lobed, oblanceolate, grey pubescent mucronate, 1.5 cm long. Petals pink, obovate. Stamens 15. Fruit pubescent, beak 8–11 cm long, white, hairy.

Flowering: February–May.

Habitat: On sandy runnels.

Distribution: South, western Qatar, Wakra, Karaana, Mukeinis.

Uses: Grazed by animals.

M. nivea (Decne.) Decne ex Webb., Fragm. Floral. Aethiop.-Aegypt. 59 (1854).

Var. intermedia Tackh. & Boulos.

Arabic: Garno, Dahma.

Perennial erect herb, 20–30 cm high. Stems short with silvery appressed hairs. Leaves rosetted, ovate-oblong to spathulate, densely appressed-hairy, apiculate, acute, cuneate, dentate. Petiole 2–4 cm long, appressed hairy. Flowers terminal with long peduncles about 15 cm long, pubescent. Pedicels 1 cm long, hairy. Calyx 5-lobed, apiculate, densely appressed, hairy, apiculate. Corolla 5-lobed, pink to mauve. Stamens 10..Style 5, united. Fruit beaked 5–6 cm long, plumose.

Flowering: April–May.

Habitat: Sandy soils and stony grounds.

Distribution: Southern Qatar, Jebel Dukhan.

Uses: Grazed by animals. Some local people boil it to cure fevers.

ILLECEBRACEAE

Herniaria L.

Herniaria hemistemon J. Gay., Duchartre. Rev. Bot.: 371 (1847).

Arabic: Ragla.

Perennial prostrate herb with woody base, 10–20 cm long. Leaves alternate at base, obtuse, flat with small stipules, elliptic 0.4 x 0.2, acute, cuneate. Flowers small, green in axillary or leaf opposed clusters. Sepals with curved hairs, pinkish.

Flowering: March–April.

Habitat: On gravelly soils.

Distribution: Common in Qatar, Wakra, North farm.

Uses: Good fodder.

H. hirsuta L. Sp. Pl. ed. 1, 218 (1753).

Var. cinerea Herm.

Arabic: Esh Shawla, Rabla.

Small tiny herb, 8 cm high, branching at right angle hirsute, nodes rather swollen. Leaves sessile, alternate, oblanceolate-spathulate, 2–3 x 0.1 cm, apex acute, base cuneate, hairy. Flowers green with yellow anthers, axillary. Fruits covered with bristles.

Flowering: March.

Habitat: Sandy and stony grounds.

Distribution: Jebel Dukhan.

Uses: Grazed by animals.

Paronchia *Mill.*

Paronchia arabica (L.) DC. in Lam. Encycl. 5: 24 (1804).

Arabic: Aurafja.

Small flat, prostrate annual herb, 20 cm long, densely branched. Leaves opposite, small, sessile, oblanceolate, 0.3–1 x 0.1 cm, apex acute, base cuneate, margin entire, glabrous or ciliate. Stipules white scarious. Flowers in axillary clusters, 5-merous. Calyx 5-lobed, spiny tipped, white membraneous. Stamens 5. Fruit indehiscent.

Flowering: March–April.

Habitat: Sandy slopes.

Distribution: South of Doha, El Wakeir.

Uses: Grazed by animals.



TEUCRIUM POLIUM

LABIATAE

Salvia L.

Salvia aegyptiaca L. Sp. Pl. 23 (1753).

Arabic: Ra'al, Ghbeisha, Noaim.

Stout perennial shrubby plant 30 cm high with stiff pointed branches. Branches white-hairy, 4-sided, arising from a woolly stock. Leaves rosetted, oblanceolate to oblong petiolate, 3–7 x 2 cm, pubescent, obtuse, cuneate dentate, upper surface rough; lower prominently veined. Flowers axillary 2-4 flowers. Calyx 5-lobed, campanulate, bilabiate, striate, pubescent, the upper lip 3-toothed, persists on fruit. Corolla white-lilac, 4 mm long with spreading frifid lip. Anthers deep violet.

Flowering: March–May.

Habitat: In depressions on light soils.

Distribution: Common in Qatar.

Uses: Grazed by animals.

Teucruim L.

Teucrium polium L. var. pilosum Decne. (1834).

Arabic: Gaad.

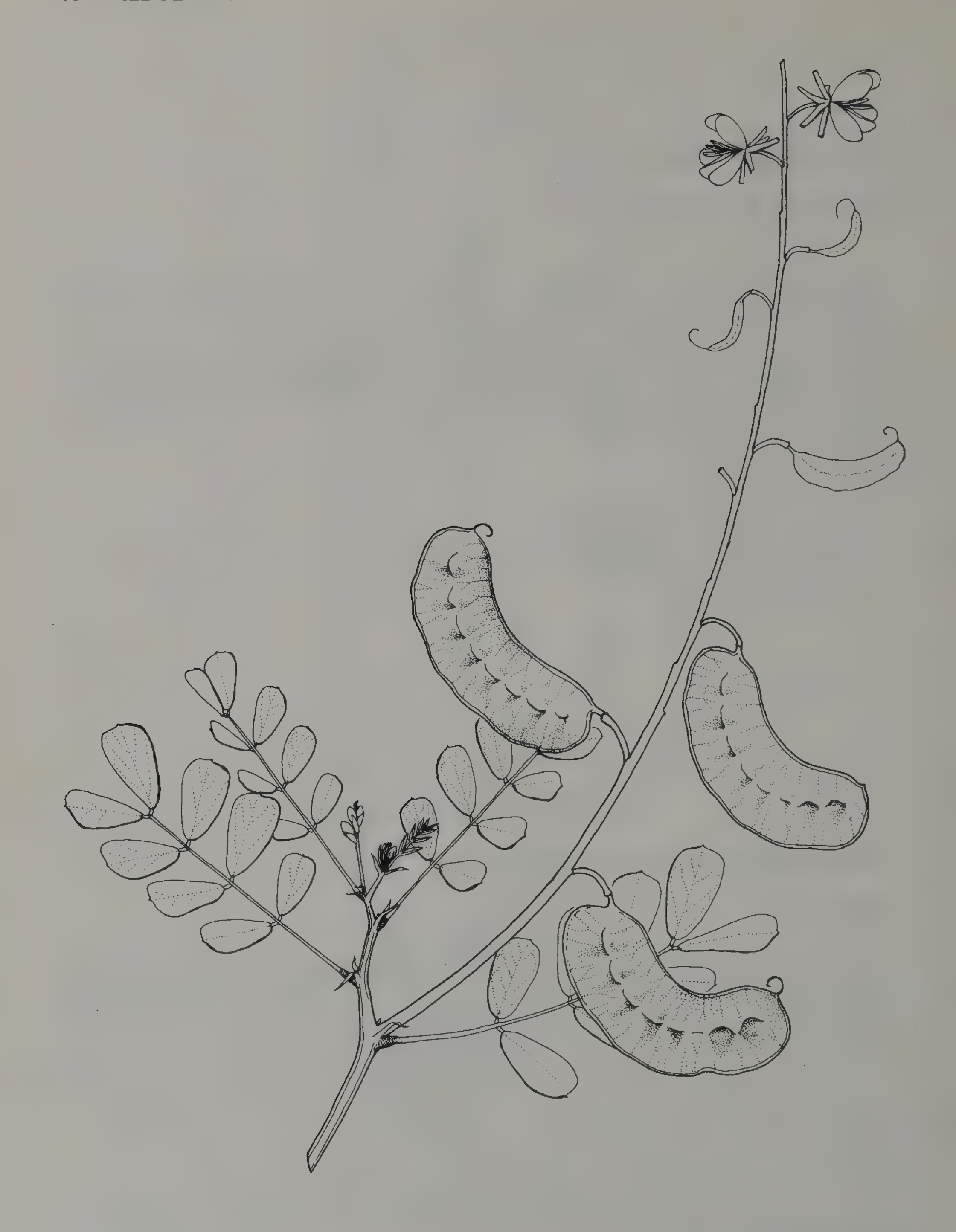
Perennial aromatic herb, 30 cm high. Stems and branches white green or white grey velvety. Leaves oblong, velvety, 1–2 x 0.2–0.5 cm, crenate-aromatic, pleasant. Flowers in dense spherical heads, subtended by leaf-like bracts. Calyx 5-lobed, united, velvety. Corolla 5-lobed, white cream. Stamens golden brown.

Flowering: April–May.

Habitat: On runnels on stony grounds.

Distribution: Central and northern Qatar, at Jebel Fewerat.

Uses: Used medicinally for liver pains and fevers and as a digestive. Pleasant scent. Leaves boiled in water and drunk as tea. Also eaten by sheep. It is claimed as treatment against malaria & cholera.



CASSIA ITALICA

LEGUMINOSAE

Caesalpiniaceae:

Cassia L.

Cassia italica (Mill.) Lam. ex Steud. Nomen. ed. 1, 167 (1821).

Syn: C. senna Burm. f.

Arabic: Senna, Ishrig.

Under shrub up to 60 cm high. Branches soft arising from a woody base. Leaves compound, pinnate; leaflets 3-5 pairs, obovate, apex rounded, sometimes apiculate, 1.5–2 x 1.5 cm, blue green. Flowers terminal racemes, 2-5 flowered. Calyx green, 5-lobed. Corolla 5-lobed, yellow. Stamens 10. Fruit kidney-shaped pod, 5 x 2.5 cm, brown, crested in the middle.

Flowering: March–May.

Habitat: Sandy and stony grounds.

Distribution: More common in southern Qatar.

Uses: Grazed by sheep and goats. Used medicinally as a laxative.

Mimosaceae:

Acacia Mill.

Acacia enrenbergiana Hayne., Darst. Beschr. Arzneik, 9: 29 (1825).

Arabic: Sallam.

A thorny shrub 1-3 metres high. Branches many, ascending from base, brown-reddish, sometimes yellow papery at the base. Stipules spinose, white 2–3 cm long, usually longer than the leaf. Leaves bipinnate, 1-3 pinnae pairs. Leaflets 9-12 pairs, small, linear-oblong, oblique at the base. Flowers in yellow capitate heads on green peduncles, 3 cm long. Calyx 5-lobed, creamy. Corolla 5-lobed, yellow. Stamens many. Legume brown, falcate, constricted, glabrous. Seeds ovate-oblong, areole rounded.

Flowering: April-May.

Habitat: On depressions and runnels.

Distribution: Very common all over Qatar in rodat.

Uses: Animals graze on leaves and pods. Stems used as firewood. Good sand fixer.

A. tortilis (Forssk.) Hayne. Darst. Beschr. Arneik. Gewachnse. 10: t. 31 (1827).

Arabic: Samar.

A shrub or small tree up to 8 m high. Stems many from base giving an umbrella-shaped flat topped crown. When it attains tree size, the crown is irregular in shape. Branches brown red, pubescent. Stipules spinose. Spines straight, white filiform 3 cm long or small brown, hooked spine 1.5 cm long. Both kinds of spines may occur in the same branch. Leaf bipinnate 4-8 pinnae pairs. Leaflets many, 5-12 pairs, linear, pubescent. Flowers white-creamy in spherical heads carried by a green peduncle 3 cm long. Pod 5–10 x 0.4–0.6 cm, spinaly curved, greenish brown, pubescent. Seeds oblong, areole rounded.

Flowering: May–June.

Habitat: On runnels and rodat on gravelly and stony grounds.

Distribution: Very common all over Qatar.

Uses: Grazed by animals. Stems used for firewood.

Prosopis

Prosopis cineraria (L.) Druce. in Rep. Bot. Epch. Cl. Brit. Isles. 3: 422 (1913).

Small tree up to 8 m high. Bark black, fissured, rough. Branches grey, armed with compressed conical scattered prickles, 3–6 mm long. Leaves 2-pinnate; main rachis 3–4 cm long. Pinnae usually 2 pairs. Leaflets 7-12 pairs, 1–1.8 cm x 3–5 mm, subsessile, oblong, rounded to mucronate, oblique at the base. Flowers in axillary spikes, 7–11 cm long, solitary or in terminal panicles. Calyx 5-toothed, cup-shaped, 5 x 1.5 mm. Corolla yellow, 3 mm long, recurved. Stamens 10. Pods 10–2 cm long, rigid, straight, torulose, glabrous, 10-15 seeded. Seeds embedded in brown pulp, 6 mm long, brown, oblong.

Flowering: May–August.

Habitat: Deep sandy soils.

Distribution: Southern Qatar, Abu Samra and cultivated in forest plantations.

Uses: Good firewood. The pods are grazed by animals. Used in aforestation projects.

Papilionceae:

Alhagi Adans.

Alhagi graecorum Boiss. Fl. Orient. 2: 559 (1872).

Syn: A. Mannifera Jaub.

Arabic: Agool.

Perennial erect spiny herb, 40–100 cm high. Branches green, glabrous. Spines filiform on axil of leaves green with a yellow sharp tip, 1–2.5 cm long. Leaves alternate, simple obovate to oblanceolate or elliptic, 0.5–2 x 0.3–0.8 cm, acute or obtuse or mucronate, cuneate, entire, sparsely pubescent. Flowers axillary solitary or 1-3 flowered, reddish. Calyx 3 mm long, grey with a red tinge, appressed hairy. Corolla blood red. Pod small, linear, 1–3 x 0.4 cm, straight or slightly curved or twisted, irregularly constricted, rough, 2-3 seeded. Seeds 2.5 mm long, subspherical, brown, smooth.

Flowering: Late May–June.

Habitat: Saline sandy soils and on sand dunes.

Distribution: Confined to southern Qatar at Abu Samra, Um Bab.

Uses: Grazed by animals.

Argyrolobium abyssinicum Jaub. & Sp.

This plant is mentioned by Dr Obeid but not seen by the author.

Astragalus annularis Forssk. Fl. Aegypt.-Arab. 139 (1775).

Arabic: Halag.

Prostrate annual diffuse herb, 30–40 cm long. Branches pubescent. Leaflets imparipinnate, 2-4 pairs, obovate, 0.6–1.5 x 0.3 cm, pubescent, obtuse to emarginate, cuneate. Stipules deltoid, acuminate, pubescent. Racemes 2-4 flowered. Calyx campanulate, pubescent, persistent on pod. Corolla deep pink to mauve. Pod 4 x 0.3 cm, horse-shoe shaped, pubescent with prominent dark red streaks along the pod surface. Beak hooked, lower margin grooved. Seeds wedge-shaped, 1.5 mm, yellow, smooth.

Flowering: March–April.

Habitat: On sandy depressions.

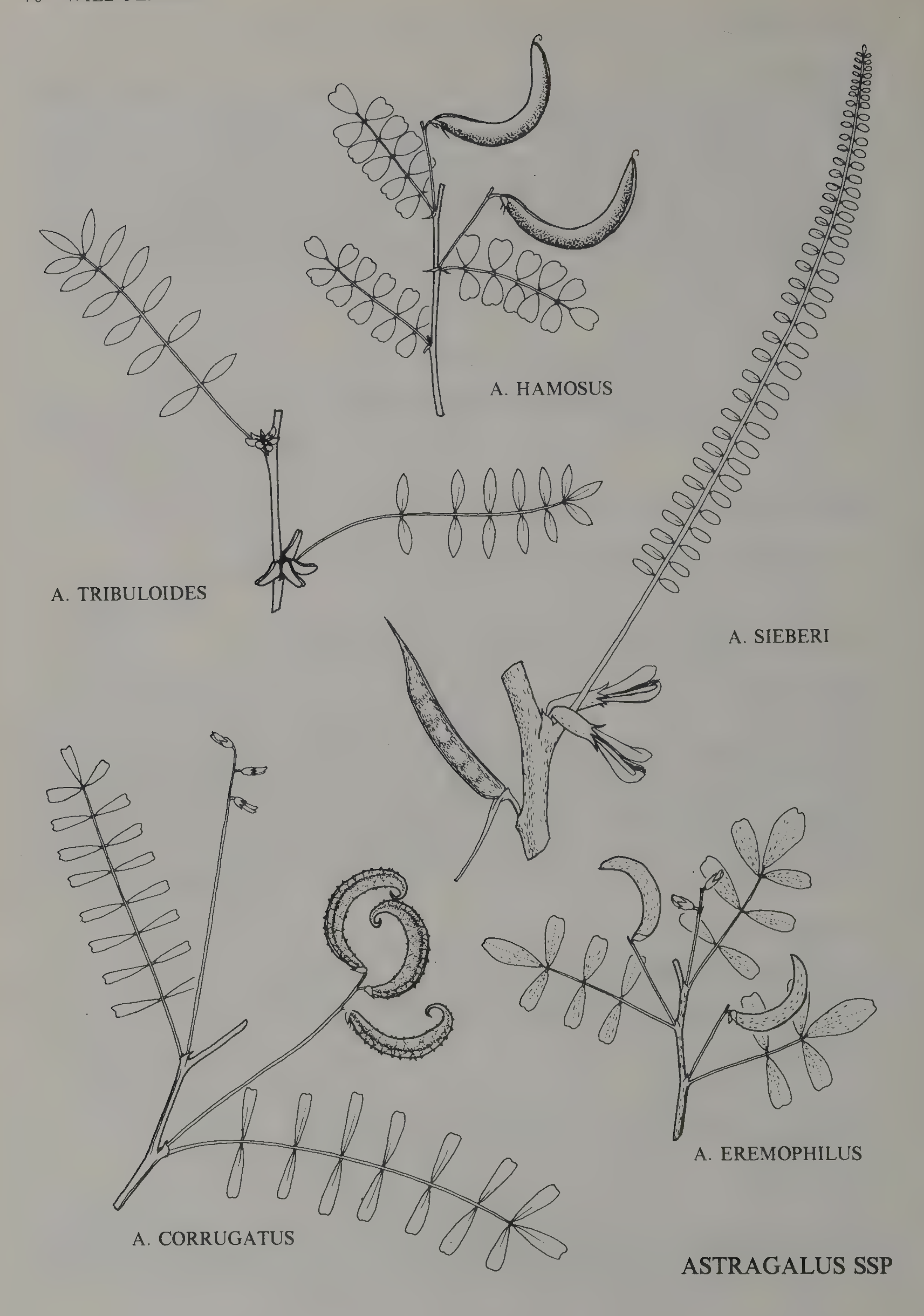
Distribution: Southern Qatar, Dukhan, Abu Samra, Um Bab.

Uses: Grazed by animals.

A. corrugatus Bertol., Rar. Ital. Pl. Dec. 3: 33. No. 1 (1810).

Arabic: Halag.

Prostrate annual herb 30 cm long. Branches from base, green reddish, appressed hairy, decumbent. Leaf pinnate 5-8 pairs. Leaflets oblong-obovate, 0.5 x 0.2 cm,



ASTRAGALUS SSP

glandular, appressed hairy, apex sharply notched or emarginate, base cuneate. Stipules lanceolate deltoid. Flowers 3-7 in lax racemes. Calyx green. Corolla pink or yellow. Pod falcate, 5-6 x 0.3 cm, straw-coloured, corrugated with prominent nerves and furrowed on the convex side. Seeds wedge-shaped, smooth, 2 mm long.

Flowering: February–April.

Habitat: Sand depressions.

Distribution: Southern Qatar, west of Karaana.

Uses: Grazed by animals.

A. eremophilus Boiss. Diagn. Ser. 1, 2: 54 (1843).

Procumbent annual herb, 30 cm high. Stems grey, velvety. Leaflets 4-6 pairs, obovate to elliptic or oblong-lanceolate, 4–6 x 4–5 mm, retuse or obtuse, cuneate, grey-velvety. Flowers yellow, pink-tinged, 2-4 flowered in lax racemes. Pods grey-velvety, brownish, 3 x 0.3 cm, semicircular, flattened, acute, shortly beaked with persistent calyx and adaxial grooves.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Southern Qatar, Wadi El Galaiel, West of Karaana.

Uses: Fodder for animals.

A. hamosus L., Sp. Pl. ed. 1, 758 (1753).

Arabic: Halag.

Prostrate or ascending annual herb, 30 cm high. Stem pubescent. Stipules membraneous. Leaves 5–15 cm long. Leaflets 8–12 pairs, ovate-oblong, retuse, pubescent beneath. Flowers in compact and congested racemes, 5-15 flowered. Peduncles up to 7 cm long. Flowers pale yellow. Pods semicircular, 6 x 0.2 cm, one arm longer than the other, brown, smooth, glabrous. Beak recurved. Seeds many.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Central Qatar.

Uses: Grazed by animals.

A. schimperi Boiss., Diagn. Ser. 1, 2: 53 (1843).

Procumbent annual herb, 25 cm high. Stem pubescent. Leaflets 4-8 pairs, 5–8 x 2 mm, pubescent, oblong-elliptical, acute, cuneate. Flowers in racemes, 2-6 flowered, stellate. Corolla white-violet. Pods semicircular in groups of 3-6 pods in a stellate arrangement, linear-oblong, hispid, 2.5 x 0.4 cm, beak recurved, straight or slightly curved below but never semi circular.

Flowering: March–April.

Habitat: Rodat soils.

Distribution: Central Qatar; Jebel Dukhan.

Uses: Grazed by animals.

A. sieberi DC. Prodr. 2: 295 (1825).

Arabic: Khanasir El Arous, Isabia El Arous, Beit El Git.

Tufted perennial pubescent herb 30–40 cm high. Branches erect from a base, white-pubescent. Stipules triangular, hispid. Leaves pinnate, densely hairy. Leaflets ovate, spinescent, 18-25 pairs. Flowers yellow, axillary, short pedicelled. Pod elongated, conical, pubescent, 4 x 0.7 cm, tapering into a hard spiny beak.

Flowering: March–April.

Habitat: In depressions and valleys.

Distribution: South-west Qatar, west of Karaana, Wadi El Ireig.

Uses: Grazed by animals.

A. tribuloides Del. var. minutus (Boiss.) Boiss. Fl. Orient. 2: 225 (1872).

Arabic: Rakhami, Beid El Gamal.

Prostrate annual herb 30 cm high. Stems arising from base, woolly hairy. Leaflets small 6-10 pairs, elliptic, lanceolate, densely hairy, acute, 0.2–0.5 x 0.1 cm. Flowers in axillary stellate clusters, 6-7 flowered, white creamy, sessile. Pods very small, oblong-triangular or kidney, curved, 0.3–0.6 x 0.1 cm, softly hairy, clustered on leaf axils.

Flowering: March–April.

Habitat: On runnels and depressions.

Distribution: Common in Qatar; Um Salal Ali, Karaana.

Uses: Grazed by animals.



HIPPOCREPIS SSP

Hippocrepis L.

Hippocrepis bicontorta Loisel. Fl. Gall. ed. 2, 2: 162 (1828).

Arabic: Um El Gurein, Dereisa, Gigi.

Procumbent pubescent annual herb, 25 cm high, much branched from base. Stipules deltoid, scarious, 3 mm long. Leaves imparipinnate, 5-10 pairs; leaflets oblong to linear, emarginate, 1–1.5 x 0.7 cm. Flowers axillary, yellow, 2–4 flowered. Peduncle 3 cm long. Calyx 3 mm, lanceolate, glabrous. Corolla yellow, 6 mm long. Pods brown, coiled into irregular rings, 4 cm long. Seeds semicircular, 4 mm long, yellow, smooth.

Flowering: March–May.

Habitat: Sandy depressions.

Distribution: Rare in Qatar; Jebel Wakra.

Uses: Grazed by sheep and goats.

H. constricta Kunze., Pugill. Pl. Prim. 42 (1838).

Arabic: Gileiglan, Gigi.

Decumbent annual herb, 30 cm high. Leaflets imparipinnate, 3-4 pairs, elliptic, midrib depressed, 2 cm long. Flowers in axillary umbels, 2-5 flowered. Calyx 2 mm, glabrous. Petals yellow. Peduncle 2–3 cm long. Pods linear, slightly curved. The deep constrictions on the convex side only forming circular sinuses in the middle of the pod, 1–3 x 0.8 cm, straw-coloured. The concave side unconstricted. The pod dehiscent into segments. Seeds semicircular, 2 mm long, brown, smooth.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: In rodats.

Uses: Grazed by sheep and goats.

H. multisiliquosa L., Sp. Pl. ed. 1: 744 (1753).

Erect or spreading annual herb, 40 cm high, much branched from base, pubescent. Leaves imparipinnate, 4–7 pairs, oblong to linear, 1–2 x 0.6 cm, glabrous, glandular on rachis, retuse or mucronate. Flowers yellow, axillary, 3-6 flowered. Peduncle 4–6 cm long. Calyx 3 mm long, lancelate. Corolla clawed, yellow. Pods linear, flattened, slightly curved, 2–6 x 0.4 cm. Constriction deep on concave side of pod forming wide circular horse-shoe constriction opening to the outside. Convex side unconstricted. Seeds semicircular, 3 mm long, brown, smooth.

Flowering: March.

Habitat: On depressions and runnels.

Distribution: Limited distribution in Qatar.

Uses: Grazed by sheep and goats.

Hymenocarpus L.

Hymenocarpus circinnatus (L.) Savi., Fl. Pls. 2: 205 (1798).

Annual erect herb, 20–30 cm high. Branches from base, appressed pubescent. Stipules small, membraneous. Leaves alternate, imparipinnate, 3-7 leaflets, the terminal larger, 6 cm long. Leaflets oblong-elliptic, obtuse, attenuate, entire. Inflorescence terminal and axillary, few flowered. Peduncles 1–3 cm long. Calyx 5-lobed, green, pilose, 5 mm long. Corolla yellow, standard, orbicular, 6 x 5 mm, clawed; wings obovate; keel upwardly beaked. Fruit reniform, 1–1.5 cm, pilose, reticulate, unarmed or with short spines. Seeds 1-2, brown-yellow, 3 mm long, smooth.

Flowering: April.

Habitat: Gravelly soils in deep depressions.

Distribution: Wakra hill near Doha.

Uses: Grazed by animals.

Indigofera L.

Indigofera articulata Gouan., Illust. Obs. Bot. 49 (1773).

Silvery velvety undershrub 20 cm high. Branches white-velvety, many. Leaflets 5, elliptic, terminal, obovate, 1–3 x 1–2 cm, obtuse to mucronate, cuneate, velvety, midrib depressed. Petiole and rachis white velvety. Flowers deep red, axillary short racemes. Sepals 5-lobed, lanceolate. Petals red. Pods small, greyish brown, thick, torulose, 2–4 seeded, 1 x 0.3 cm, shortly beaked.

Flowering: March–April.

Habitat: Sandy soils on saline shores.

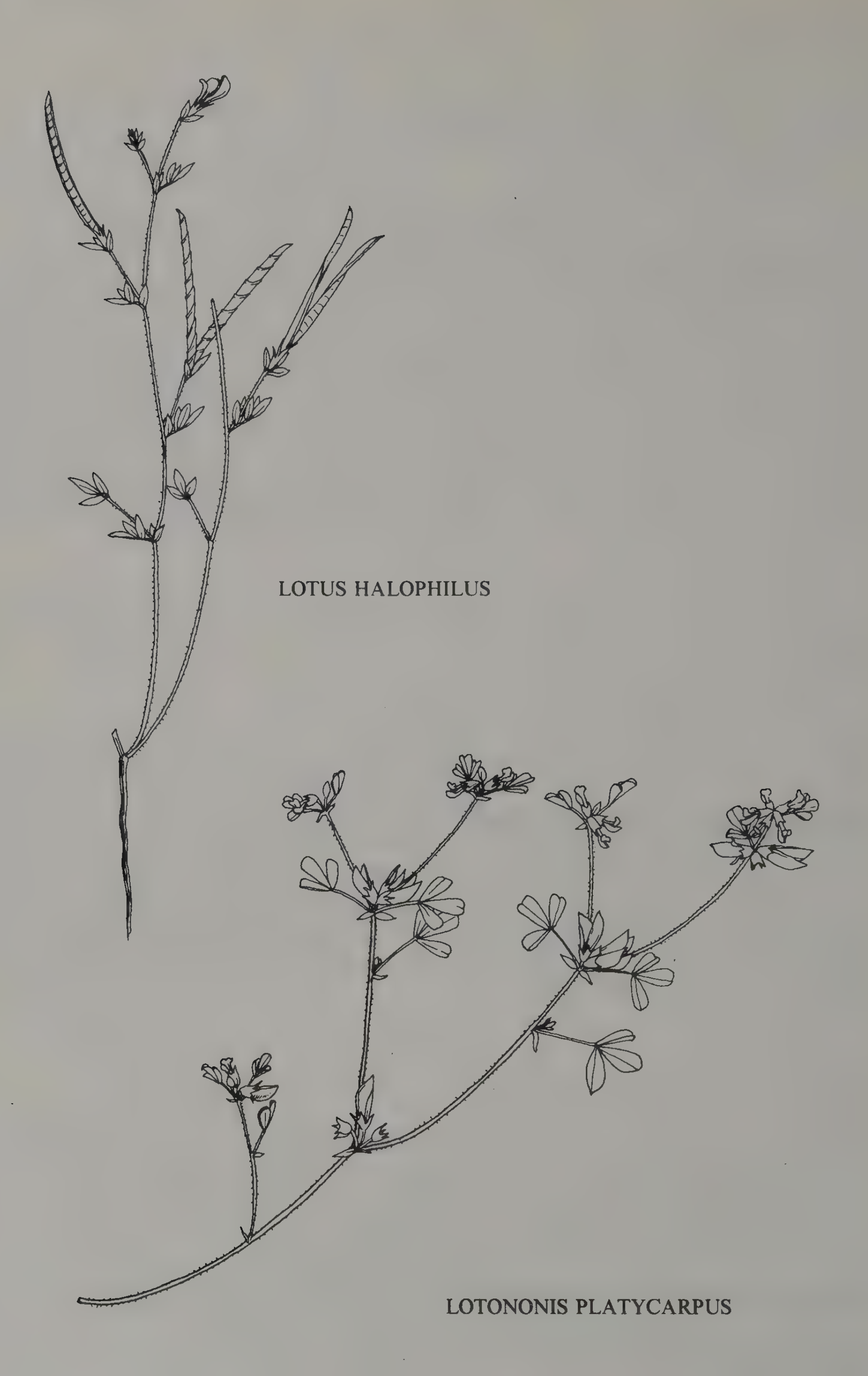
Distribution: Southern Qatar; Wadi el Ireig, west of Karaana.

Uses: Grazed by animals. Said by some Bedouin to treat scorpion bites.

Lotononis Eckl. & Zeph.

Lotononis platycarpus Pichi-Sermiolli var ***persica*** Takht. Stud. Fl. Aegypt. ed. 2. 225 (1974).

Arabic: Herbeth.


LOTUS HALOPHILUS
LOTONONIS PLATYCARPUS

Prostrate tomentose annual herb 25 cm long. Branches brown-green, tend to fork, pubescent. Leaves trifoliate, alternate and opposite at base of forked branches, obovate, mucronate to obtuse, cuneate, 0.8 x 0.1 cm, appressed pubescent. Petiole 0.5–1 cm long, pubescent. Flowers axillary, 3-6 flowered. Flowers yellow-white, calyx 5-lobed, green-whitish, membraneous. Pod brown, 0.3 x 0.1 cm, dehiscent, elliptic.

Flowering: March.

Habitat: Sandy soils.

Distribution: Common in southern Qatar, Wakra; Wadi El Banat.

Uses: Grazed by animals.

Lotus L.

Lotus glinoides Del., Ann. Sc. Nat. 7: 286.

Arabic: Ghabd.

Annual pubescent herb, 20 cm high. Leaflets 5, the lower ones distal from the upper 3 leaflets, 0.2 x 0.1 cm, obovate, pubescent. Flowers axillary, pink. Sepals densely pubescent, longer than petals. Pods dark brown, apiculate.

Flowering: April–May.

Habitat: Sandy soils.

Distribution: Southern Qatar.

Uses: Grazed by animals.

L. halophilus Boiss. & Sprun., in Boiss. Diagn. Ser. 1. 2: 37 (1843).

Arabic: Horbeith.

Spreading silvery pubescent herb 30–40 cm high. Branches densely apressed, hairy. Leaves 5-foliate, lower pair smaller and distal from the upper three, obovate, appressed, hairy, acute, cuneate, 0.2–0.7 x 0.1–3 cm. Flowers axillary solitary or in pairs of racemes. Calyx persisting on pods, pubescent. Petals yellow. Pods brown, linear, glabrous, 4 x 0.2 cm, dehiscing by spiral twisting, short beaked, ridged with seeds septum, straight or curved. Seeds subglobose, 1 mm long, yellow, shining.

Flowering: February–March.

Habitat: Sandy soils.

Distribution: Common in southern Qatar, Dukhan, Um Bab.

Uses: Grazed by sheep and goats.



MEDICAGO LACINIATA

L. schimperi Steud. Nom. Ed. 11, 75.

Annual prostrate herb 25 cm long. Leaves 5, 0.2–0.3 x 0.1 cm, obovate, hairy, glandular. Flowers yellow, axillary 0.2 cm long. Calyx pubescent. Fruit terete 3 cm x 0.2 cm dehiscent spirally.

Flowering: March.

Habitat: Sandy soils.

Distribution: Central western areas, Dukhan.

Uses: Grazed by animals.

Medicago L.

Medicago laciniata (L.) Mill., Gard. Dict. ed. 8, 4 (1768).

Arabic: Nafal, Hassak.

Annual herb 20–30 cm high, decumbent or ascending. Branches pubescent. Stipules dentate or lacinate, hairy. Leaflets trifoliate, obovate to triangular, 1.2 x 1 cm, serrate, dentate at upper half, pubescent on lower surface, apex apiculate-retuse, veins almost parallel towards the serrate margin. Petiole 2 cm long. Petiolule 1–3 mm long. Flowers axillary racemes, 1-3 flowered on peduncles 8–25 mm long. Calyx 3 mm long, pubescent. Corolla yellow, twice as long as calyx. Pod globular, brown, covered with stiff bristles 2–3 mm long, 1–2 cm diameter. Seeds brown, ovoid, 3 x 1 mm.

Flowering: March.

Habitat: Sandy depressions.

Distribution: Common in central Qatar.

Uses: Grazed by animals but not much liked because of the bristly fruit.

M. polymorpha L., Sp. Pl., ed. 1: 779 (1753).

Arabic: Nafal.

Annual glabrous herb 20 cm high. Stipules lacinate, 6–10 mm long. Leaflets 3, obovate, 6–20 x 5–10 mm, serrate at upper half, cuneate, truncate to retuse, glabrous. Flowers yellow 2-10 flowered axillary racemes. Calyx 3 mm long, glabrous. Corolla yellow half as long as calyx. Pod 1 x 1 cm, discoid to cylindrical, bristly or unarmed. Spines of variable length. Seeds oblong-ovoid, brown, smooth 3 x 1 mm.

Flowering: March.

Habitat: Cultivated soils.

Distribution: Rodat in central Qatar and house gardens.

Uses: Grazed by animals and the cultivated ***M. sativa*** is common as fodder in Qatar.



MELILOTUS ALBUS

Melilotus Mill.

Melilotus albus. Medic. ex Desr. in Lam., Encycl. 4: 63 (1797).

Annual herb 30–40 cm high. Branches green, glabrous. Stipules adnate to the petiole, lanceolate, 0.1 cm long. Leaflets 3, obovate-oblong, 1 x 0.2 cm, margin serrate at top 1/3, apex rounded, base cuneate. Flowers in axillary spikes, many flowered, white, subsessile. Pod oval, light brown, wrinkled 1 x 0.5 cm, peaked. Seed 1.

Flowering: March–April.

Habitat: Worked soils.

Distribution: Cultivated fields.

Uses: Grazed by animals.

M. indicus (L.) All. Fl. Pedem. 1: 308 (1785).

Arabic: Handagog.

Annual herb 30–40 cm high. Branches green, glabrous. Stipules adnate to the petiole, lanceolate, 0.1 cm long. Leaflets 3, obovate-oblong, 0.2 cm, margin serrate at top 1/3, apex rounded, base cuneate. Flowers in axillary spikes, many flowered, yellow, subsessile. Pod oval, light brown, wrinkled, 1. x 0.5 cm, peaked. Seed 1.

Flowering: March–April.

Habitat: Worked soils.

Distribution: Cultivated fields.

Uses: Grazed by animals.

Ononis L.

Ononis reclinata L., Sp. Pl. ed. 2: 1011 (1763).

Annual herb 20–30 cm long. Branches from base, glandular-hairy. Stipules oblong acuminate, 3 mm long. Leaves trifoliate, oblanceolate to obovate, 0.7–1 x 0.5 cm, glandular, hairy, dentate at upper half, upper leaf smaller, narrow, cuneate. Flowers solitary, axillary racemes, pink. Calyx lanceolate, pubescent shorter than calyx, 0.9 cm long, shortly clawed. Pod linear oblong, brown, 0.5 cm long, dehiscing by twisting; beak recurved. Seeds reniform-orbicular, brown, tubercled.

Flowering: March.

Habitat: Sandy soils.

Distribution: Cultivated rodat.

Uses: Grazed by animals.

O. sicula Guss., Cat. Pl. Boccad. 78 (1821).

Annual herb 20–30 cm long. Branches from base, glandular, hairy. Stipules oblong, acuminate, 3 mm long. Leaves trifoliate, oblanceolate to obovate, 0.7–1 x 0.5 cm, glandular, hairy, dentate at upper half. Upper leaf larger than laterals up to 1.5 cm long. Flowers yellow. Pods up to 1 cm long, straw colour.

Flowering: March.

Habitat: Sandy soils.

Distribution: Cultivated rodat.

Uses: Grazed by animals.

Psoralea L.

Psoralea plicata Del., Fl. Aegypt. Il., 322 (1813).

Aromatic perennial glandular herb up to 60 cm high. Branches green, glandular, erect. Leaflets trifoliate, the terminal larger than laterals, elliptic-oblong, margin distinctly undulating, convolute, acute, cuneate, 0.5–1.5 x 0.2–0.3 cm. Petals up to 1 cm long. Flowers in axillary spikes 5–10 cm long, white-violet. Calyx striate and enclosed in the pod. Pods small elliptic, 0.5–1 cm long, 1-seeded.

Flowering: March–April.

Habitat: Sandy soils on runnels.

Distribution: Southern Qatar, south of Karaana.

Uses: Grazed by animals.

Rhynchosia Lour.

Rhynchosia minima (L.) DC. Prodr. 2: 335 (1825).

Twiner or erect glabrous herb 40–50 cm high. Leaflets 3, ovate, 3 x 2.5 cm, entire, acute, cuneate. Flowers axillary, 5-10 flowered racemes, 10 cm long. Flowers yellow. Pod 2 x 0.4 cm, glabrous, 2-seeded. Seeds mottled with black.

Flowering: March–April.

Habitat: Sandy depressions.

Distribution: Northern Qatar.

Uses: Grazed by animals.


Reichardia tingitana


Senecio desfontainei


Tripleurospermum auriculatum


Convolvulus arvensis

PLATE NO. 9:



Convolvulus glomeratus



Convolvulus pilosellifolius



Convolvulus prostratus



Cressa cretica

PLATE NO. 10:


Anastatica hierochuntica


Sisymbrium orientale


Chrozophora tinctoria


Euphorbia granulata

PLATE NO. 11:



Euhorbia prostrata



Teucrium polium



Salvia aegyptiaca



Cassia italica

PLATE NO. 12:



Acacia ehrenbergiana



Astragalus hamosus

Acacia tortilis

PLATE NO. 13:



Astragalus sieberi



Astragalus tribuloides



Hippocrepis biconforta



Hippocrepis multisitiqua

PLATE NO. 14:

Scorpiurus L.

Scorpiurus muricatus L., Sp. Pl. ed. 1, 745 (1753).

Arabic: Khuzaima.

Annual herb 20–30 cm high, branching from base. Stipules whitish with green midrib, 2.5 cm long. Leaves simple, entire, obovate-spathulate, 4–15 x 3 cm, acute, attenuate, ciliolate. Petiole 2 cm long. Flowers yellow axillary umbels, 2-4 flowered. Pedicel 3–6 cm long. Petals yellow 1.5 cm long. Pods coiled, constricted, ridged reddish with dense bristles, beaked 3–5 cm long. Seeds reniform, brown-black, rugulose, 3 x 2 mm.

Flowering: March.

Habitat: Fine sandy soils in rodat.

Distribution: Northern and central Qatar.

Uses: Good fodder for animals.

Taverniera DC.

Taverniera aegyptiaca Boiss. Diagn. Ser. 1, 9: 113 (1843).

Arabic: Dahair.

Perennial herb 50–60 cm high. Branches white velvety. Leaves simple or obovate to orbicular, velvety hairy, 0.5–0.8 x 0.5, apex rounded, cuneate. Flowers red, axillary, 1-2 flowered, 5-lobed, lanceolate. Corolla pink, 1 cm long, longitudinally veined. Pods brown, 2 segments, bristly.

Flowering: March–April.

Habitat: Sandy runnels.

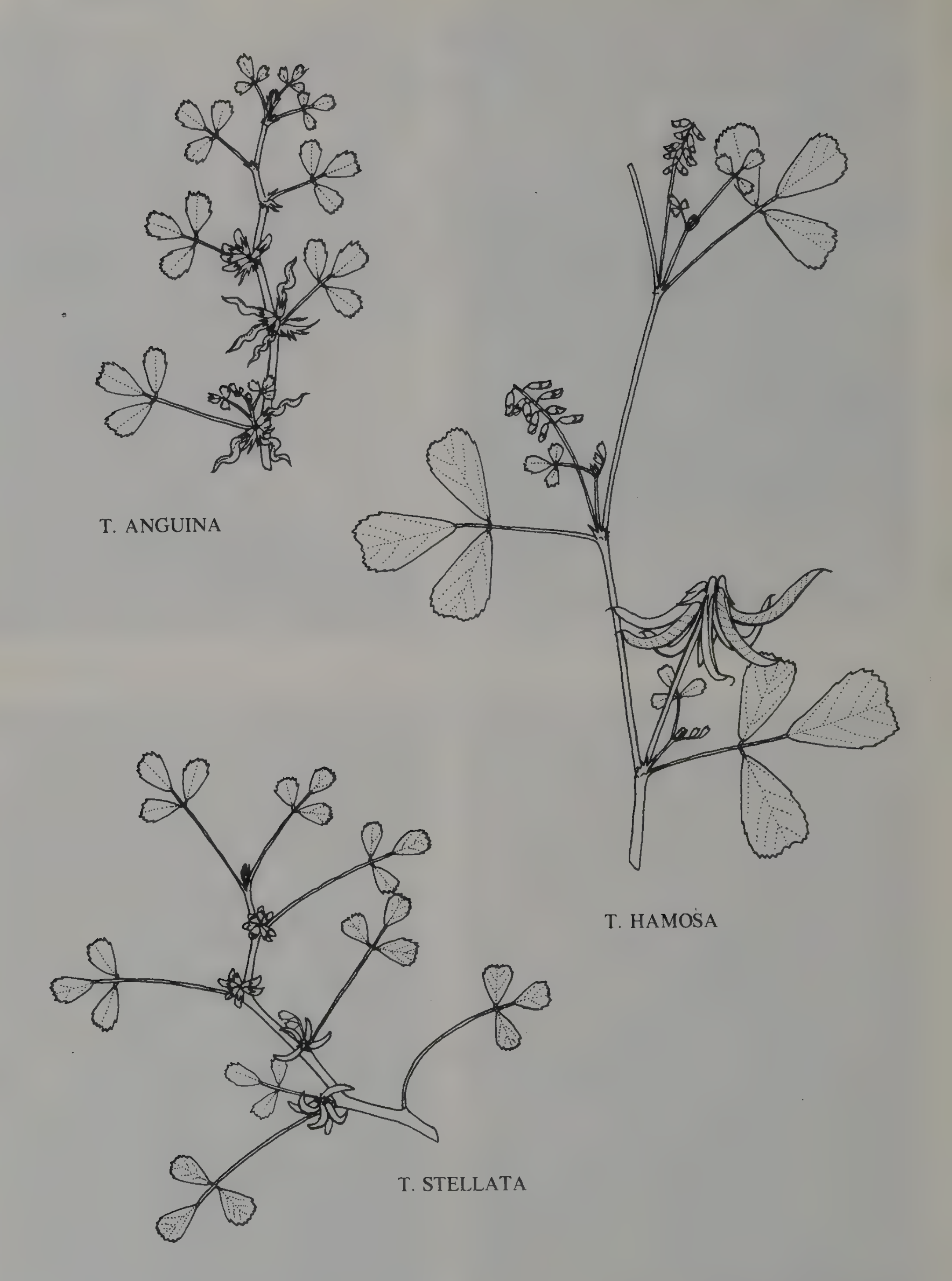
Distribution: Southern Qatar.

Uses: Grazed by animals.

Trifolium L.

Trifolium resupinatum L., Sp. Pl. ed. 1, 771 (1753).

Erect or prostrate annual 20–30 cm high. Branches glabrous or pubescent. Stipules 1 cm long, ovate, pubescent. Leaves trifoliate, obovate, mucronate, 10–15 x 5–7 mm. Lower petioles longer than upper. Flowers pink to mauve, in crowded hemispherical racemes, 1.5 cm in diameter. Calyx 3 mm long. Corolla twice as long as calyx, pink to mauve. Fruits ovate covered by the calyx lobes. Seeds ovoid, brown, smooth, 1.3 mm long.



TRIGONELLA SSP

Flowering: March–April.

Habitat: Irrigated fields.

Distribution: Cultivated fields.

Uses: Fodder for animals.

Trigonella L.

Trigonella anguina Del., Fl. Aegypt. 111. 254. t. 3, 8, f. 2 (1813).

Arabic: Nafal.

Prostrate annual herb, 40 cm high, stipules 4 mm long, lanceolate, dentate-lacinate. Leaf trifoliate, subequal, the central larger 0.5–1 x 0.5 cm, triangular to obovate, dentate at upper 1/3, apiculate, cuneate, glabrous. Petiole 0.5–1.5 cm long. Flowers yellow in axillary spikes, 2-7 flowered. Calyx 3 mm long. Corolla slightly longer than calyx. Pods in bunches, falcate, brown, venation prominent, beaked, 0.5–1 x 0.2 cm, 2-6 seeded. Seeds ovoid, yellow, smooth, 1.5 mm long.

Flowering: March–April.

Habitat: On light soils in depressions.

Distribution: Rodat fields.

Uses: Grazed by animals.

T. hamosa L. Syst. Na. ed. 10, 1180 (1759).

Arabic: Nafal.

Prostrate or erect annual herb 50–60 cm high. Stipules dentate, 4–6 mm long. Leaves trifoliate, 1–1.8 x 0.5–1 cm, triangular, dentate at upper half, retuse, cuneate, glabrous. Flowers yellow in racemes, 6–12 flowered. Calyx 2 mm long, acute. Corolla 4 mm long, yellow. Pod linear, mucronate, curved with prominent reticulate venation on pod surface, glabrous, 1 x 0.2 cm. Seeds brown, ovoid, 1.2 mm long.

Flowering: March–April.

Habitat: On depressions and runnels.

Distribution: Common weed in Qatar.

Uses: Fodder for animals.

T. monantha C. A. Mey. Verz. Pfl. Canc. 137 (1831).

Prostrate or erect annual herb 30–40 cm high. Stipules 5–7 mm long, dentate. Leaflets trifoliate, triangular or obovate, 0.6–1.3 x 0.5 cm, dentate at the upper part.

Flowers yellow, axillary, 1-2 flowered, subsessile. Calyx 5–6 mm, pubescent. Corolla yellow, longer than calyx. Pod linear slightly curved, pubescent, beak hooked, 4–7 cm long. Seeds rhombic-cylindrical, 2–3 mm, brown, tubercled.

Flowering: March–April.

Habitat: On cultivated soils.

Distribution: Rodat fields in central Qatar.

Uses: Eaten by animals.

T. stellata Forssk., Fl. Aegypt. Arab. 140 (1775).

Arabic: Nafal.

Prostrate or erect annual herb 30–50 cm high, much branched from base. Stipules 3 mm long, denticellate. Leaf trifoliate, 1 x 1 cm. Leaflets long petioled about 5 cm long, triangular, retuse, cuneate, glabrous, upper half slightly dentate, midrib depressed. Flowers yellow axillary in umbellate or stellate sessile racemes, 7-10 flowered. Calyx 2.5 mm long, deflexed above. Corolla yellow, twice as long as calyx. Pods stellate spreading terete, slightly curved, 1 cm long, shortly linear. Seeds brown-yellow, smooth, 1.5 mm long.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Common in Qatar, especially in the south.

Vicia L.

Vicia monantha Retz., Obs. Bot. 3: 39 (1783).

Trailing or erect annual herb 50–70 cm high. Branches angular. Leaves pinnate, 5-10 pairs, the terminal leaflet is a tendril. Leaflet linear-oblong, 2–3 x 1 cm, obtuse or mucronate or truncate, cuneate. Stipules small, green lanceolate, 0.1 cm long. Flowers violet on axillary racemes, 1-3 flowered. Corolla twice as long as calyx. Pod linear, 4 x 0.7–1 cm, brown, glabrous, 4-6 seeded, beaked. Calyx persistent on pod.

Flowering: April–May.

Habitat: On irrigated soils.

Distribution: Cultivated fields and road sides.

Uses: Grazed by animals.



LINUM STRICTUM

LINACEAE

Linum L.

Linum strictum L. Sp. Pl. ed. 1: 400 (1753).

Erect annual herb 20–30 cm high. Branches erect, green glabrous, scabrous, widely branching above. Leaves alternate, sessile, lanceolate, 1–1.5 x 0.1 cm, acute, cuneate, entire, glabrous, midvein prominent below. Flowers axillary spike-like, solitary, green-yellow on pedicels up to 0.5 cm long. Calyx 5-lobed, scabrous, lanceolate, acuminate at apex, 1-3 nerved, glandular, ciliate, green and whitish below, persistent on fruit, 0.5 cm long. Corolla 5-lobed shortly clawed, greenish yellow, longer than calyx. Stamens 10, but only 5 with anthers, alternate. Ovary 5-locular. Style-5, free. Pedicels shorter than calyx, 3–4 mm long. Capsule globose, whitish green, 0.2 cm diameter, surrounded by a base of sepals. Seeds smooth and flat; testa becoming mucilaginous on wetting.

Flowering: March–April.

Habitat: Light soils on depressions in hilly grounds.

Distribution: Central Qatar, Wakra hills.

Uses: Grazed by animals. The seeds yield an oil similar to linseed oil.

MALVACEAE

Abutilon Mill.

Abutilon fruticosum Guill. & Perr. in Perr. & Rich. Fl. Seng. Tent. 70 (1831).

Shrubby perennial plant 1–1 ½ m high. Branches blue-green, thinly velvety. Leaves ovate-cordate, long petioled, usually minutely crenate, velvety. Flowers yellow, axillary, solitary. Epicalyx absent. Calyx 5-lobed, 1 cm long. Corolla yellow, 2 cm long. Fruit schizocarp, mericarp, 8-10, compact. Seeds green velvety.

Flowering: January–April.

Habitat: Usually on rodat soils or irrigated farms.

Distribution: Central & northern Qatar.

Uses: Grazed by animals.

A. pannosum (Forst. f) Schlecht. Bot. Zeit. 9. t. 828 (1851).

Arabic: Gaagaan. Gajan, Loag.

Shrubby plant 1–2 m high. Branches yellow-green densely yellow-velvety, canescent. Leaves ovate-suborbicular, acute, grey green-velvety, palmately 7-9 nerved, dentate, 6.6



ALTHAEA LUDWIGII

x 5 cm. Stipules subulate, tomentose. Flowers solitary, yellow, axillary and terminal. Peduncles densely tomentose. Epicalyx absent. Calyx 5-lobed, 1–1.5 cm long, campanulate, stellate-tomentose, accrescent on fruit. Corolla 5-lobed, 3 cm long, yellow with deep red inner base. Fruit schizocarp, mericarps, many up to 35, readily separable, 1–1.75 cm diameter. Seeds grey green 2–3 mm reniform, aerolate, stellate-hairy.

Flowering: April–June.

Habitat: In depressions on clay soils.

Distribution: Common on rodat in central Qatar.

Uses: Grazed by animals.

Althaea L.

Althaea ludwigii All. (Fl. Q.) L. Mant. Plant. 98 (1767).

Arabic: Khatma.

Slender annual prostrate herb, 40–60 cm high. Branches hirsute, spreading. Leaves alternate, palmate, deeply 3-5 lobed, lobes themselves further divided, crenate, 6 x 6 cm. Stipules persistent. Petiole 4–5 cm long. Flowers white crowded at tips of branches, fascicute axillary and few terminal, pubescent. Epicalyx 6-9 lobes. Peduncles 2 cm long. Calyx 5-lobed, 8 mm long, villous. Mericarp glabrous 9-10 concealed by accrescent calyx. Seeds brown reniform, punctate, reguse.

Flowering: April–May.

Habitat: Loamy and gravelly soils.

Distribution: Rodat and runnels in central Qatar.

Uses: Grazed by animals.

Malva L.

Malva nicaeensis All. Fl. Pedem. 2: 40 (1785).

Arabic: Khubeiz.

Erect annual herb, 30–40 cm high. Branches erect, pubescent. Leaves alternate, orbicular, 5-lobed, 4–7 x 5 cm, crenate, palmate, glabrous with a wide basal sinus, apressed-pubescent. Petiole 6–8 cm long, glandular hispid. Flowers axillary, fasciculate, solitary. Calyx 5-lobed, deltoid-orbicular, pubescent, 6–8 mm long. Corolla 5-lobed, pink 8 mm long. Epicalyx broadly lobed. Fruit globose 1 cm diameter, concealed by calyx lobes. Seeds hairy.

Flowering: March–April.

Habitat: Gravelly soils.

Distribution: Northern farm.

Uses: Grazed by animals.

M. parviflora L., Demonstr. Pl. Hort. Upsala 18 (1753).

Arabic: Khubeiza.

Erect or procumbent annual herb 40–50 cm high. Leaves alternate, cordate-orbicular obtusely 3-lobed 6–10 x 4 cm palmate, dentate, stellate-hairy. Branches with strigulose stellate hairs. Petiole 7–8 cm long, longer than leaf. Stipule 5–12 mm long, stellate-hairy, purplish-tinted. Flowers axillary, pale purplish. Epicalyx 5-fid. Calyx 0.5–1 cm long, persistent on fruit. Corolla same length of calyx, purple, obovate, 0.5 cm long, emarginate. Fruit 6 mm diameter, not concealed by calyx. Seeds brown, 1.5 mm rugulose.

Flowering: March–April.

Habitat: In depressions and runnels.

Distribution: In rodat or gardens in central Qatar.

Uses: Grazed by animals. Seeds sometimes used medicinally to treat coughs and bladder complaints. In India the women use the roots to clean their hair.

MENISPERMACEAE

Cocculus DC.

Cocculus pendulus Diels., In Engl. Pfl. 4: 237 (1910).

Arabic: Gurdhi.

Woody climber, shrubby, 5–6 m high. Branches glabrous. Leaves opposite, lanceolate, glabrous, coriaceous, petiolate, entire, acute 5 x 2.5 cm, petiole 1–1.5 cm. Flowers dioecious, axillary clusters. Male flowers many, yellowish green; stamens 6. Female flowers 1–2. Calyx 6-lobed. Corolla 6-lobed, smaller than calyx, sometimes absent. Fruit a berry, globose, red, ovules 2.

Flowering: March–April.

Habitat: Usually climbing on *Ziziphus* or *Acacia tortilis* trees on sandy loamy soils.

Distribution: Central and southern Qatar, Karaana.

Uses: Grazed by animals. Fruit edible.

MOLLUGINACEAE

(FICOIDACEAE)

(AIZOACEAE)

Mollugo cerviana (L.) Seringe in DC., Prodr. 1: 392 (1824).

Arabic: Digeiga.

Small slender annual herb 10–20 cm high. Branches slender, monopodal, green, glabrous. Leaves whorled, 6-8, linear, 1 x 0.05 cm, obtuse, glabrous, sessile; basal rosetted. Flowers white, terminal in umbels of threes. Pedicels 0.5 cm long. Calyx 5-lobed, green with white scarious margins, 0.2 cm long. Petals absent. Fruit globose, capsule green. Seeds black, ovate.

Flowering: April.

Habitat: On light soils in rodat usually under shade of trees.

Distribution: Central and northern Qatar in Shafalahia north government farm, Shania and Saadana.

Uses: Grazed by sheep.

NEURADACEAE

(ROSACEAE)

Neurada procumbens L., Sp. Pl. ed 1, 441 (1753).

Arabic: Saadan.

Procumbent spreading annual herb 30 cm long. Branches fleshy green, densely pubescent, radiating from stem. Leaves alternate, ovate-elliptic, lobed, 1–3 x 0.5–1.5 cm, obtuse, crenate, pubescent above, tomentose white below. Flowers solitary, whitish yellow to pinkish. Petiole tomentose up to 0.8 cm long, stipulate. Epicalyx 5-lobed turning into prickles. Calyx 5-lobed. Corolla 5-lobed, obovate, 1 cm long. Fruit orbicular, 1.5–2.5 cm, discoid, spinose, tomentose, indehiscent.

Flowering: February–April.

Habitat: Sandy soils and deep depressions.

Distribution: Common in southern Qatar.

Uses: Fruit is edible by man and loved by many animals.

OROBANCHACEAE

Cistanche Hoffm. & Link.

Cistanche phelypaea (L.) Cout. (1913).

Arabic: Dhanon, Tarsous.

Parasitic perennial herb 60 cm high. Stem fleshy 1.5 cm, thick, yellow brown to mauve-purple, covered with alternate, oblong-lanceolate yellow leaf scales 2.5–3 cm long. Flowers yellow in broad spikes 30 x 9 cm. Bracts yellow purplish 1 cm long. Bracteoles 0.5 cm long yellow, linear with broad membraneous margin. Calyx campanulate, 1.8 cm long, lobes overlapping. Corolla yellow 3–5 cm long with mauve edges, curved. Fruit a capsule, 2 valved with persistent style, ovate.

Flowering: March–April.

Habitat: Salty marshes.

Distribution: Round coastal lines.

Uses: The whole plant is said to be poisonous.

OXALIDACEAE

Oxalis L.

Oxalis corniculata L., Sp. Pl. ed. 1, 435 (1753).

A spreading annual or perennial 10–30 cm high. Branches pubescent and rooting at nodes. Leaves alternate. Leaflets obcordate, emarginate, digitately trifoliate, cuneate 1 cm x 0.8 mm, tomentose below. Stipules adnate to petiole 1.5–2 mm long, ciliate. Flowers yellow, axillary, 1–6 flowered pseudoumbels on peduncles 5–9 cm long. Pedicel 1.5 cm long. Calyx 5-lobed, yellow, 8 mm long, emarginate, cuneate. Stamens 10 in a 2 series, connate. Fruit capsule 1.5 cm long, linear-oblong, pubescent, furrowed. Seeds compressed, ribbed; ovoid-ellipsoid, flattened, brown, transversely ridged.

Flowering: March–April.

Habitat: Cultivated soils.

Distribution: Cultivated fields and gardens.

Uses: Grazed by animals.

O. pes-caprae L., Sp. Pl. ed. 1. 434 (1753).

Erect perennial herb 30 cm high. Stem underground bulb. Leaves crowded at surface



PLANTAGO SSP

of soil trifoliate, obcordate, emarginate, 2–2.5 x 1.5 cm. Petiole 5–10 cm long. Stipules adnate to petiole. Flowers yellow, umbellate 3-5 flowered on soft peduncles up to 25–30 cm long. Corolla 5-lobed, yellow 2--2.5 cm long. Stamens 10 in 2 series. Fruits not seen.

Flowering: March–April.

Habitat: Cultivated soils under trees.

Distribution: Seen at Wadi El Banat, north of Doha, probably introduced.

Uses: Leaves eaten by man in Iran as stews but bitter in taste.

PLANTAGINACEAE

Plantago L.

Plantago amplexicaulis Cav. Ic. Descr. 2: 22, t 125.

Arabic: Rubla.

Stemless annual herb 10–20 cm high. Leaves simple, lanceolate, amplexicaule, entire, pubescent, acute 5–10 x 0.8–1 cm. Flowers axillary on cylindrical spikes 3–6 cm long, on long peduncles up to 10 cm long. Bracts scarious-margined, glabrous. Calyx 4-lobed, glabrous, ovate, the anterior with a green keel. Corolla light brown, acute, ovate. Fruit capsule 5–6 mm long, elliptic, opening by a lid. Seeds 2, dark brown to black.

Flowering: March–April.

Habitat: On sandy runnels.

Distribution: Central and western Qatar.

P. ciliata Desf., Fl. Atlant. 1: 137 tab 39 f. 3 (1969).

Arabic: Rubla, Gireita, Widhaina.

Small stemless, silky canescent herb 10 cm high, brown tomentose all over. Leaves obovate or oblanceolate-spathulate, acute to acuminate, cuneate, 6 x 2.5 cm, brown, hairy. Flowers brownish spikes, 4 x 2 cm, cylindrical, tomentose. Bracts scarious at margins. Calyx 4-lobed, villous at the outside. Capsule 1.3 mm, opening by lid.

Flowering: March–April.

Habitat: Sandy soils and runnels.

Distribution: Southern Qatar.

Uses: Eaten by animals.

P. coronopus L., Sp. Pl. wd. 1. 115 (1753).

Arabic: Rubla. Widhaina.

Stemless pubescent annual herb 8–15 cm high. Leaves oblong-lanceolate, pinnatifid, 10 x 1 cm, acute, pubescent, rosette. Scape reddish pubescent, 5–8 cm long. Spikes cylindrical, dense 3–15 cm long. Calyx 4-lobed, ciliate, the posterior keeled-winged. Corolla 4-lobed, hirsute, acuminate. Capsule 1.3 opening by lid.

Flowering: March–April.

Habitat: Gravelly soils on wadis.

Distribution: Central Qatar at Dukhan.

Uses: Grazed by animals.

P. lanceolata L. Sp. Pl., ed. 1, 1136 (1753).

Arabic: Rubla.

Stemless glabrous or hairy perennial herb 10–25 cm. Leaves linear in a rosette, spirally arranged, lanceolate, acute, cuneate, 10–20 x 3–4 cm. Spikes dense in conical or cylindrical, 3–5 cm long on long slender furrowed peduncle. Calyx 4-lobed, anterior lobes connate and glabrous, 3 mm long. Corolla 4-lobed, brownish-white 3 mm long, ovate. Capsule ellipsoid, 3–6 mm long, opening by lid, 1–2 seeded. Seeds yellow brown to dark brown, oblong-ellipsoid 2 mm long, hilum dark.

Flowering: Late in May.

Habitat: Disturbed or cultivated soils.

Distribution: Cultivated in fields in central Qatar.

Uses: Grazed by animals.

P. ovata Forssk., Fl. Aegypt – Arab. 31 (1775).

Arabic: Rubla.

Small stemless annual herb 10 cm high. Leaves longer or equal to peduncles. Leaves ovate to elliptic, 10 x 3 cm, acute, cuneate. Spikes ovate-oblong. Calyx 4-lobed, ovate, scarious on the margins. Corolla 4-lobed, ovate, mucronate. Capsule 2–3 mm opening by lid.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Southern Qatar.

Uses: Grazed by animals.



POLYGALA ERIOPTERA

PLUMBAGINACEAE

Limonium Mill.

Limonium axillare (Forssk.) Kuntze., Reiss. Gen. 2. 395 (1891).

Arabic: Gatf, Shleil.

Woody perennial low shrub, 20–30 cm high. Branches brown, scaled. Leaves rosetted, fleshy, spathulate, grey-green with salt secreting glands, 3–7 x 1–1.5 cm, apex rounded, base cuneate, sessile. Flowers pink on terminal panicles 25 cm long, 5-merous, arranged in 3-bracted, 1-sided spikes lying almost horizontally. Calyx funnel-shaped, membraneous, pink. Corolla 5-lobed. Stamens 5. Fruit a utricle enclosed in the calyx.

Flowering: March–April.

Habitat: Halophyte on saline shores.

Distribution: Common around the coasts in El Khor, Um Bab, El Wasail, Dukhan.

Uses: Grazed by animals.

POLYGALACEAE

Polygala L.

Polygala erioptera DC. Prodr. 1:326 (1824).

Small annual or erect perennial herb 20–30 cm high. Branches red-brown, glabrous. Leaves alternate, linear, 2.5–3.5 x 0.3 cm, obtuse, cuneate, entire, glabrous. Petiole small 0.1 cm. Flowers axillary, solitary. Calyx 5-lobed, 3 small green, 2 ovate 0.4 cm long, membraneous, green in the middle with reticulate venation. Corolla pink, upper lip 2-lobed. Lower part tubular, ending in feathery pink petals. Fruit protected by wings.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Central Qatar in rodat, Dukhan, Wakra.

Uses: Grazed by animals.

P. irregularis Boiss. Diag. Ser. 1: 181 (1978). var *aegyptiaca* (Chadat).

Small slender annual herb 10 cm high. Stem pubescent. Leaves alternate, linear, obtuse, cuneate 2 x 0.3 cm. Flowers white pink on terminal racemes. Calyx 5-lobed, the outer 3 linear, the inner 2 wing-like and red veined reticulate. Corolla 3 connate, the dorsal keel-shaped, feathery. Stamens 8. Capsule 2-celled, flattened laterally, winged. Seeds hirsute with axils.



Indigothera articulata



Lotononis platycarpus



Melilotus indicus



Trigonella hamosa

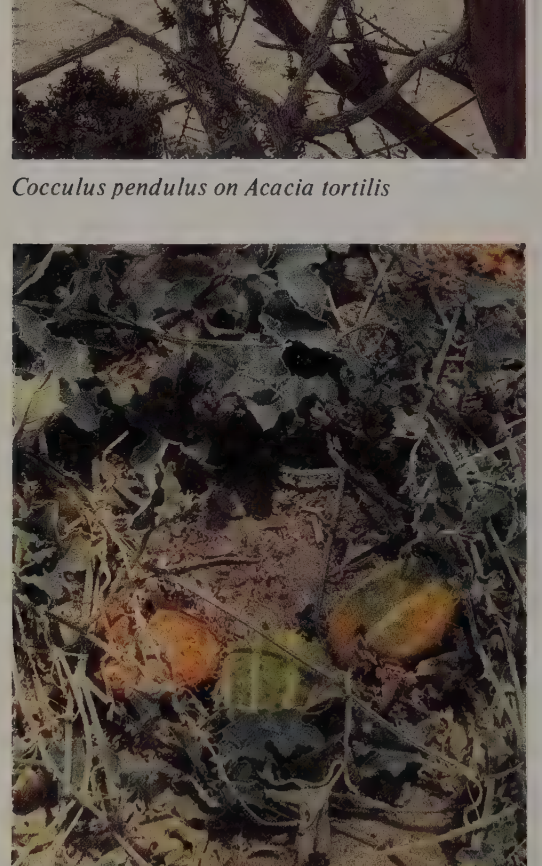
PLATE NO. 15:



Cocculus pendulus on Acacia tortilis



Citrullus colocynthis



Cucumis prophetarum



Malva parviflora

PLATE NO. 16:



Neurada procumberis



Cistanche phelypaea



Plantago ciliata



Limonium axillare

PLATE NO. 17:



Calligonum comosum



Rumex vesicaruis



Portulaca oleracea



Ziziphus mauritiana

PLATE NO. 18:



Reseda subulata



Scrophularia deserti

Ziziphus nummularia

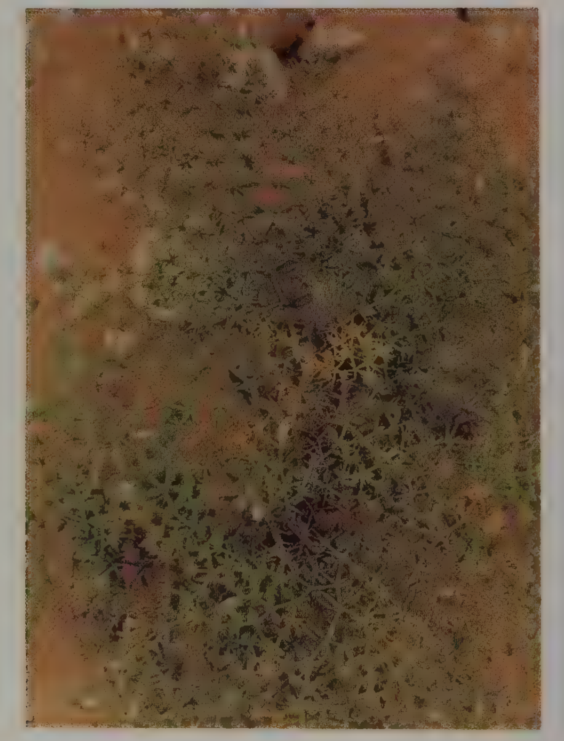
PLATE NO. 19:



Lycium Shawii



Corchorus depressus

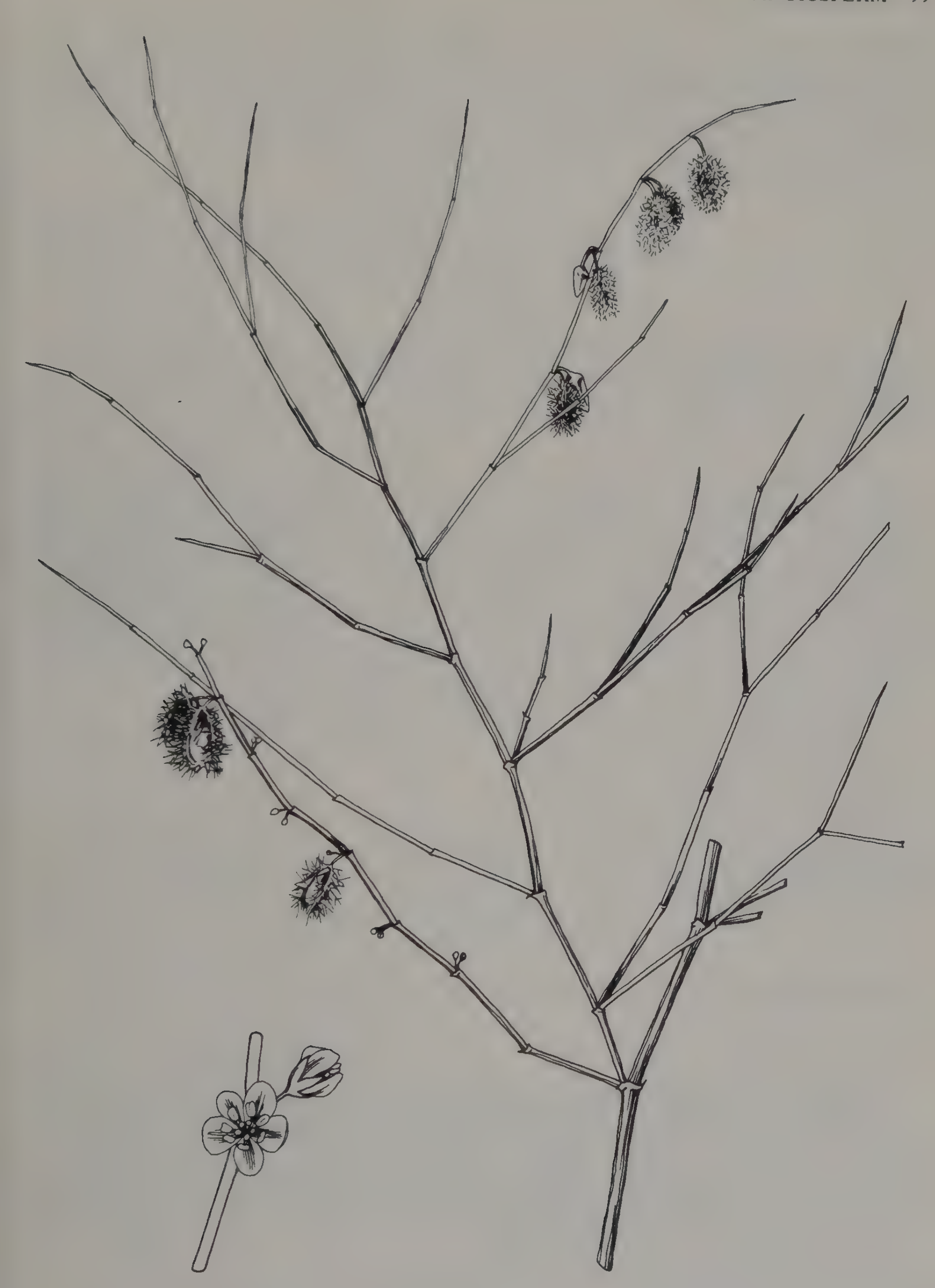


Fagonia bruguieri



Fagonia glutinosa

PLATE NO. 20:



CALLIGONUM COMOSUM

Flowering: April.

Habitat: Sandy and gravelly soils.

Distribution: Common in Qatar, especially in the north eastern parts.

Uses: Grazed by animals.

POLYGONACEAE

Emex Campd.

Emex spinosus (L.) Camp., Monogr. Rum. 58 (1819).

Arabic: Hinzab, Himbaz.

Annual erect or diffuse, much branched green herb, 30–50 cm high. Roots tuberous. Stems soft, pinkish or pinkish green, glabrous, striate. Ochreae 5 mm long, membraneous, deciduous. Leaves ovate to ovate-oblong, cordate or truncate at base, rounded and apiculate at apex, 5–6 x 3–4 cm, glabrous. Petiole 3–6 cm long. Flowers monoecious in axillary lax racemes; female flowers on the lower part of stem, nearly sessile; male flowers on upper part together with bisexual flowers. Perianth triangular, greenish red, 6-merous, Sepals attached to the fruit with 3 outer sepals spinescent recurved at apex. Fruit achen 3-lobed enclosed in perianth, aerial and subterranean, 3–4 mm long, spiny. Spines 1.5–2 mm long, arcuately curved at base.

Flowering: March–April.

Habitat: On sandy soils in depressions.

Distribution: Common in Qatar.

Uses: Grazed by animals.

Calligonum L.

Calligonum comosum L'Herit., Trans. Linn. Soc. 1: 180 (1790).

Arabic: Abal, Arta.

Perennial leafless shrub 1 m high. Stems woody, brown. Roots sometimes appearing above ground, long, deep in sandy soils. Branches green, whorled at nodes, jointed, smooth very brittle when dry. Leaves small, linear, 0.2–0.3 cm, usually deciduous. Flowers silvery white, axillary, Calyx 5-lobed, green, lanceolate. Petals 5-lobed white with green centre. Stamens 10, red. Fruit reddish turning yellow, covered by many red-yellow bristles and 4-ridged. Seeds yellow.

Flowering: April–May.

Habitat: Deep sand dunes.

Distribution: South west Qatar at Um Bab.

Uses: Eaten by animals. Good sand dune stabilizer. The leaves dried and pounded are used for skin ailments. The woody base is used as firewood.

Polygonum L.

Polygonum bellardi Sibth. & Sm. (1806).

Arabic: Gordab.

Perennial herb 50 cm high. Stems striate with ochrea on nodes, reddish. Leaves, linear to oblong, 4 x 1 cm, oblong, obtuse, cuneate, ochrea small not extended along stem. Flowers terminal on spikes-pink. Sepals 5, green; petals 5, deep pink. Fruit achene, triangular.

Flowering: March–April.

Habitat: In moist cultivated soils.

Distribution: Cultivated rodat on irrigation channels.

Uses: Grazed by animals.

Rumex L.

Rumex cyprius Murb. Lund. Univ. Arsskr. N. F. Afd. 2, 3, No 14: 20 (1907).

Arabic: Humeid.

Annual herb 20–30 cm high. Branches from the base. Leaves fleshy, ovate-deltoid, stipulate, 5 x 4 cm, rounded, cordate. Petiole 5 cm long. Flowers terminal greenish. Perianth 6-lobed. Styles 3, rose pink. Fruit winged, membraneous, orbicular prominently brown, red veined, emarginate, 2 x 2 cm.

Flowering: March–April.

Habitat: Silty depressions in wet soils.

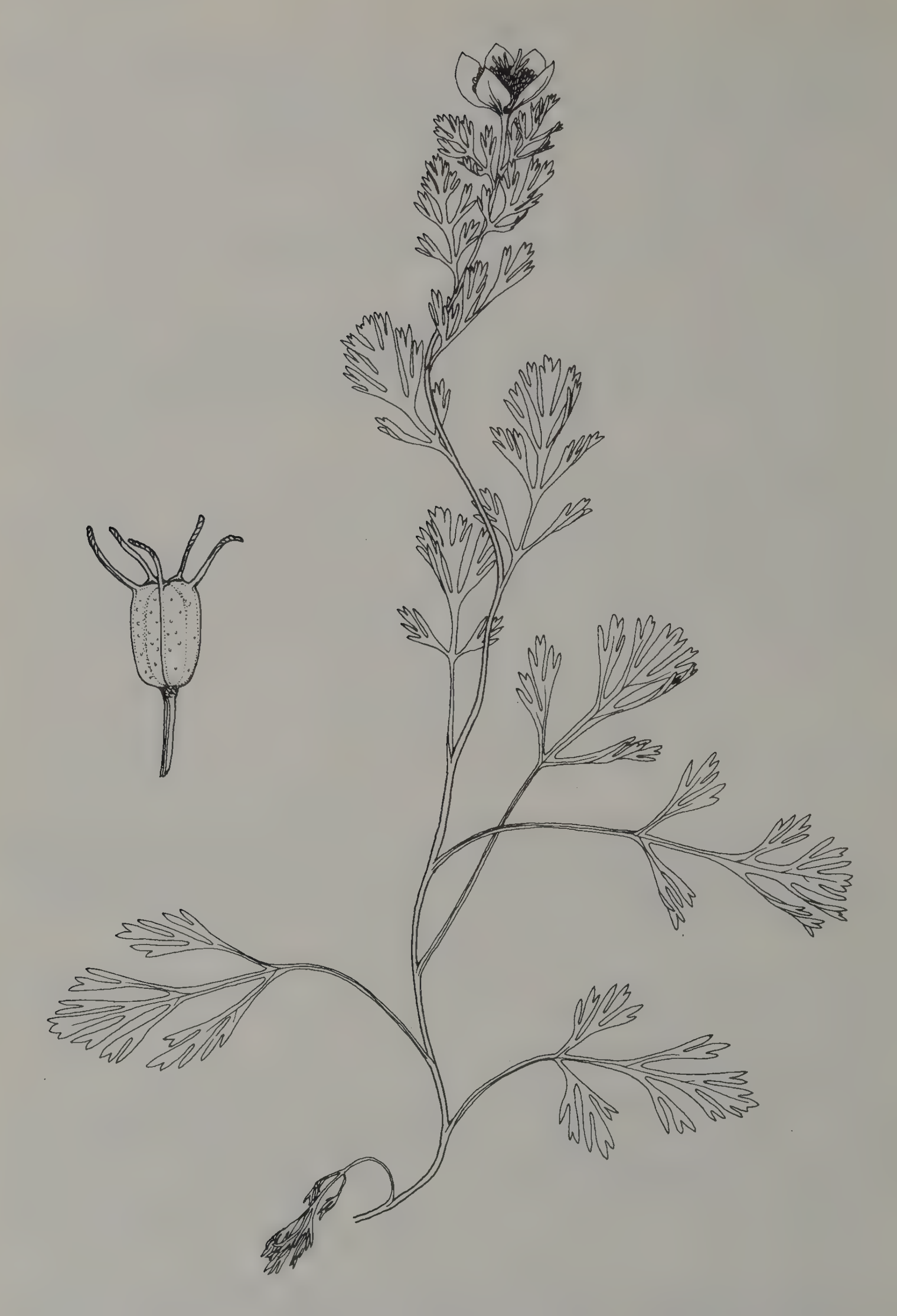
Distribution: Cultivated fields.

Uses: Leaves eaten by man as salad or cooked in stews. Also grazed by animals.

R. dentatus L., Mant. Alt. 226 (1771).

Arabic: Khilla.

Annual or perennial herb 40–70 cm high. Stems fistulose, grooved, glabrous. Leaves lanceolate or ovate-oblong 1.8 x 0.4 cm, obtuse, subcordate. Upper leaves shorter and



NIGELLA SATIVA

narrower. Petiole 8 cm long, shorter than lamina. Flowers on leafy racemes. Fruit perianth toothed. Fruit brown bristly, 1 cm diameter, acutely trigonous.

Flowering: April.

Habitat: Silty depressions on wet soils.

Distribution: On margins of cultivated fields.

Uses: Grazed by animals.

R. vesicarius L., Sp. Pl., ed. 1. 336 (1753).

Annual glabrous herb, 30 cm high. Branches from the base. Leaves fleshy, ovate, deltoid, 6 x 4 cm, obtuse. Perianth 6-lobed, outer 3 (sepals) enlarging in fruit forming subequal wings, entire, purplish red veined.

Flowering: March–April.

Habitat: Soft silty soils.

Distribution: Common in cultivated fields.

Uses: Leaves eaten as salads or cooked in stews. Used as a digestive.

PORTULACACEAE

Portulaca L.

Portulaca oleracea L., Sp. Pl., ed. 1, 445 (1753).

Arabic: Rigla, Barbir.

Succulent glabrous annual herb 30–40 cm high. Stems succulent, greenish-pink, branching. Leaves fleshy, obovate, spathulate, different sizes, 1–5 x 0.2–3 cm, rounded or emarginate, cuneate, entire. Flowers yellow, terminal, lying above whorls of leaves. Calyx 2, the lower overlapping the upper. Corolla 4-5 lobed. Stamens 8 to many. Fruit capsule opening by a lid, 7–8 mm diameter, many seeded.

Flowering: February–August.

Habitat: On cultivated soils.

Distribution: Common in Qatar.

Uses: Leaves eaten green as salad or cooked in stews with the fleshy stems. Also eaten by animals.

PRIMULACEAE

Anagallis L.

Anagallis arvensis L., Sp. Pl. ed. 1, 148 (1753).

Arabic: Ain El Git.

Small annual herb 10–40 cm long. Stems quadrangular, strongly 4-winged. Leaves opposite, lanceolate-ovate, 1.5–2.5 x 1–1.5 cm, acute, rounded, glabrous, sessile. Flowers solitary, blue, axillary. Calyx 5-lobed, lanceolate, acuminate, persistent on fruit with scarious margins. Corolla 5-lobed, blue rotate, 1.5 cm long. Stamens 5, epipetalous, filaments bearded. Pedicel 2–2.5 cm long, curved on fruit. Fruit capsule brown with a pointed style and persistent sharp calyx, opening by lid 0.5 cm in diameter, hanging downwards.

Flowering: April.

Habitat: On soft soils under shade of Ziziphus or Acacia species.

Distribution: Common in north and north eastern Qatar.

Uses: Grazed by animals.

RANUNCULACEAE

Nigella L.

Nigella sativa L. Sp. Pl. 653 (1753).

Annual erect herb 30–100 cm high. Branches green striate, glabrous. Leaves alternate, 5–6 x 2.5 cm, deeply dissected, lobes linear; petiole 2–3 cm long. Flowers terminal, solitary blue. Calyx 5-lobed, 1.3 cm long, clawed. Stamens many, yellow. Fruit campanulate 5-6 beaked, green, 1 cm long with 5 united follicles.

Flowering: May.

Habitat: Fine textured sandy soil under Acacia shrub.

Distribution: Found only in Um Salal Ali on the northern road.

Uses: In Yemen, the seeds are used to flavour bread.

RESEDACEAE

Ochradenus Del.

Ochradenus baccatus Del., Fl. Aegypt. 92, t. 31 (1813).

Arabic: Gurdhi.

Shrubby spinescent dioecous plant 40-90 cm high. Branches stout terminating into leafless tapering spiny ends. Leaves fasciculate, 5 per node, linear, 5–6 x 0.3–0.4 cm, acute, sessile, soon deciduous. Flowers yellow in terminal racemes, 8 cm long, very short pedicelled uni or bisexual. Calyx 5-lobed, green-reddish. Corolla absent. Stamens 10-15 on oblique disc, bright yellow. Fruit a berry, obovate, green, glabrous turns white when ripe, 0.5 cm diameter.

Flowering: March–April.

Habitat: On sandy soils in depression with Ziziphus spp.

Distribution: Common in rodat; Shahania.

Uses: Grazed by animals.

Oligomeris Cambess.

Oligomeris subulata (Del.) Boiss. Fl. Orient. 1: 435 (1867).

Syn: O. linifolia (Vahl. ex Hornem) Macbride.

Arabic: Danban.

Annual or biennial plant 20–40 cm high. Stem glabrous, branching from base and above. Leaves alternate, fasciculate, linear, 2–4 x 0.2 cm, sessile, rounded, entire. Flowers yellow on loose elongate terminal spikes, sessile. Calyx 2–5 lobed. Petals 2-lobed, white-yellow. Stamens 3. Fruit a capsule, deeply furrowed, 4 mm diameter. Seeds black.

Flowering: March–April.

Habitat: In sandy and gravelly depressions.

Distribution: Common in central and southern Qatar, Karaana.

Uses: Grazed by animals especially goats and sheep.

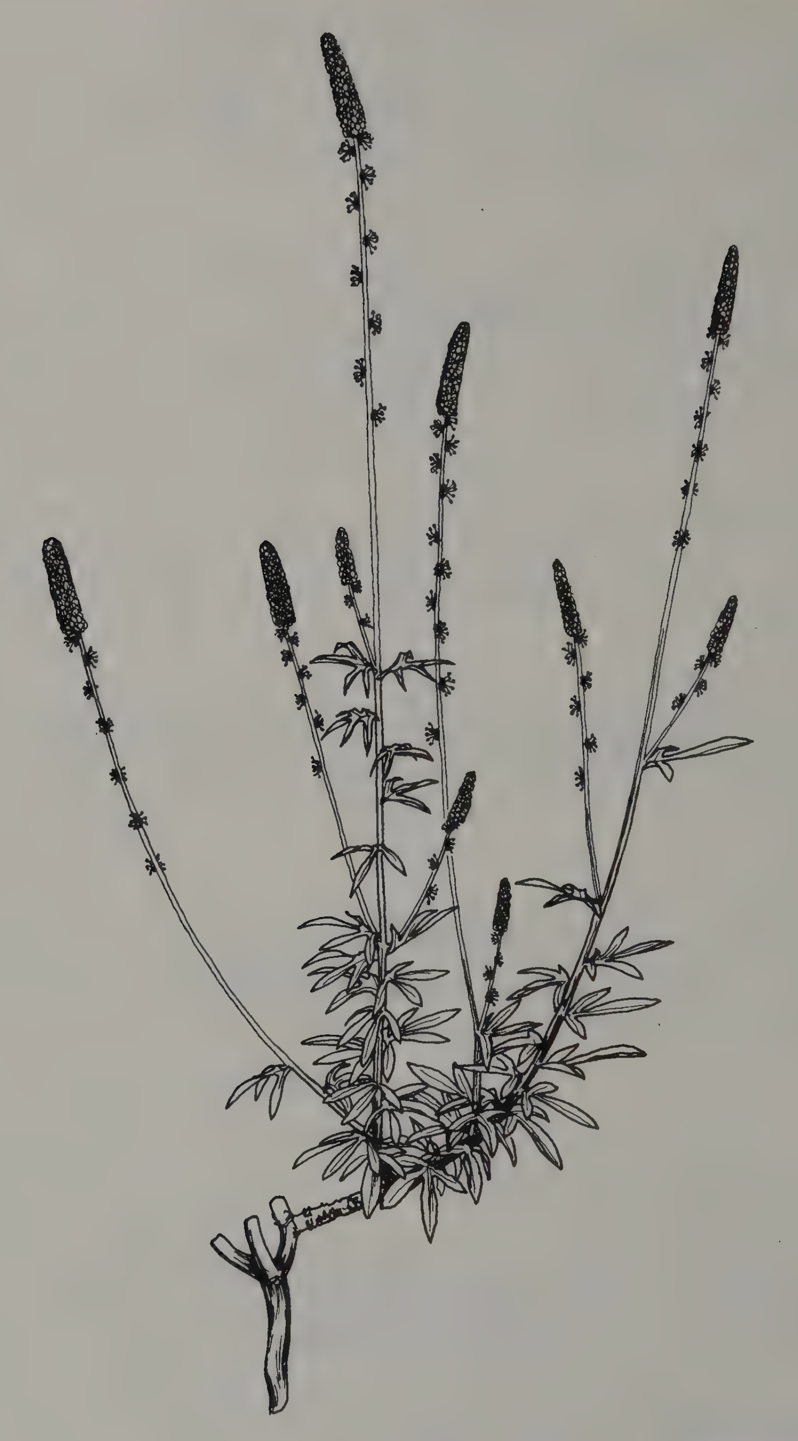
Reseda L.

Reseda arabica Boiss. Diagn. Ser. 1: 6 (1843).

Annual herb 20–40 cm high. Stems erect, branching from base. Leaves simple oblong-lanceolate, entire, upper leaves linear-lanceolate, 5 x 0.8 cm. Flowers creamy on spike-like racemes, 8 cm long. Pedicels longer than calyx. Calyx 6-lobed, persistent. Corolla 6-lobed, short. Stamens many. Fruit a capsule, 1 cm diameter, pendulous.

Flowering: March–April.

Habitat: On gravelly and stony depressions.



RESEDA MURICATA

Distribution: Central and southern Qatar, Um Bab.

Uses: Grazed by animals.

R. aucheri Boiss. ssp. ***bracteata*** (Boiss.) Abdulla.

Annual herb 25 cm high. Stems from base, erect. Leaves lanceolate, entire or slightly dentate, 5 x 0.8 cm, sessile, rounded. Flowers creamy, terminal spikes. Calyx and corolla 6-lobed. Stamens many. Capsule obovoid, 7 mm diameter.

Flowering: March–April.

Habitat: Gravelly depressions.

Distribution: Central Qatar.

Uses: Grazed by animals.

R. muricata C. Presl., Bot. Bemerk. 8 (1844).

Perennial herb 30–50 cm high. Branches erect, branching from base, green, pubescent. Leaves on lower parts of branches, simple or divided, linear to oblong-lanceolate, 1–3 x 0.2 cm, acute, cuneate, margin revolute, cuneate. Inflorescence on long dense spikes up to 30 cm long. Pedicels short 0.2 cm long. Calyx 6-lobed. Corolla 6-lobed, white green. Stamen many, creamy pink. Capsule green, ovoid 0.7 cm long. Seeds pink.

Flowering: March–April.

Habitat: Sandy stony ground.

Distribution: Common in Qatar, Dukhan.

RHAMNACEAE

Ziziphus Mill.

Ziziphus nummularia (Burf. f.) Wight. & Walk – Arn. Prodr. 162 (1834).

Arabic: Nabag, Sidr, Kanar.

Thorny shrub 1–3 m high. Stems many, crown irregular. Bark grey, fissured. Branches pubescent, grey to reddish. Stipules spinescent, one filiform, straight up to 1.5 cm long, the other curved. Branches red at tips of young shoots. Leaves glossy, simple, ovate orbicular, apiculate or mucronate, 3-nerved from the top of petiole, entire, pubescent 1–2 x 1 cm. Petiole pubescent up to 0.5 cm long. Flowers green-yellow, 0.3 mm diameter, axillary. Calyx 5-lobed, pubescent. Corolla 5-lobed. Fruit globose drupe, 0.7–0.8 cm, green, ripens to yellow and finally red brown, rogose, sweet, edible.

Flowering: March–May.

Habitat: In depressions in rodat on sandy mounds.

Distribution: Common in rodat in central Qatar.

Uses: Fruits edible, grazed by animals. Used as firewood, traps sands and controls soil erosion. It is also used to treat coughs.

Z. mauritania Hamilt. Lam. Encycl. 3: 318 (1789).

Arabic: Kanar, Nabag, Sidr.

Glossy green tree up to 8 m. Bark grey, fissured. Branches pendulous, reddish. Stipules brown, one filiform, straight, the other curved, sometimes absent. Leaves ovate-orbicular, rounded to mucronate, 3-nerved, 2–8 x 1.5–5 cm, entire, green shiny above, pale green to grey tomentose below. Petiole 1 cm long. Flowers in green axillary cymes. Calyx 5-lobed, 2 mm long, dorsally tomentose. Corolla 5-lobed. Fruit a drupe, globose, large 1.5–3 cm diameter, yellow and ripens to orange or red brown, edible. Seeds 2, brown.

Flowering: March–April.

Habitat: Cultivated soils. It is introduced and now naturalised.

Distribution: Planted in houses, gardens, cultivated fields.

Uses: Shade tree. The fruits are edible.

Z. spina-christi (L.) Willd. Sp. Pl. il 105 (1753).

Arabic: Nabag, Sidir.

Tree up to 10 m in its natural habitat. Bark grey, fissured. Branches pubescent, erect to pendulous, milky-white armed with straight filiform spines and curved one. Some branches are lacking spines. Leaves elliptic-oblong, 2–6 x 1–3 cm, 3-nerved, pale green above, white greenish grey pubescent below. Flowers small, green, axillary cymes, 10–25 flowered, 5-merous. Calyx minutely woolly dorsally, 2 mm long. Petals 1.5 mm long. Fruit globose drupe, reguse, ripens to red-brown colour, 0.5–1 cm. Seeds 2.

Flowering: March–April.

Habitat: Deep soft silty soils.

Distribution: This is cultivated as a forest tree in the northern road on forest plots.

Uses: Shade tree. The fruits are edible.

RUBIACEAE

Galium L.

Galium tricornutum Dandy in Watsonia, 4: 47 (1957).

Slender annual climber 1 m high. Branches glandular, hairy, striate, green, quadrangular, minutely prickly. Leaves lanceolate-linear, whorled, 2–3 x 1 cm, acute, cuneate with a 3-threads tendril. Margins minutely prickly. Flowers 0.5 cm long. Corolla cup-shaped, 1.7 mm long, white. Fruits globose 0.3 cm diameter, rough, rugose, sticky.

Flowering: March–April.

Habitat: Usually under Ziziphus in the shade.

Distribution: Rare in northern rodat in North Government farm.

Uses: Grazed by animals.

RUTACEAE

Haplophyllum A. Juss.

Haplophyllum tuberculatum (Forssk.) A. Juss. Mem. Mus. Hist. Nat. Paris, 12: 528, t. 17, Na 10 (1825).

Arabic: Um Museika, Khaisa.

Perennial aromatic plant 40–50 cm high. Branches green, glandular, crispid, hairy. Leaves alternate, glandular, variable in size and shape, spathiolate-obovate 2–4 x 1–2 cm, rounded, cuneate. Upper leaves smaller, linear, punctate, margin undulate, crispid-pubescent. Flowers yellow in terminal dichesial cymes. Calyx 5-lobed, acute, ciliate, pubescent. Corolla 5-lobed, yellow, glabrous, 1 cm long. Filaments 10, glandular. Fruit brown, 5-lobed opening by 5 slits 4 mm long. Seeds reniform, grey, 1.5 mm long, rugose.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Southern Qatar and central parts; Shahania, El Wakeir, E; Gamilia.

Uses: Not liked by grazing animals. Bedouins use it to cure scorpion stings. It has a sweet lemon scent.

SCROPHULARIACEAE

Antirrhinum L.

Antirrhinum orontium L. Sp. Pl., 617, (1753).

Arabic: Saysam.

Small annual herb 10 cm high. Stem erect or slightly branched. Leaves sessile or subsessile, linear, oblong. Flowers purple to rose-coloured, axillary, solitary. Calyx 5-lobed, 2-lipped, 1 cm long. Corolla 5-lobed, 2-lipped. Stamens 4. Fruit capsule ovate.

Flowering: March–April.

Habitat: On irrigated soils.

Distribution: Cultivated fields of central Qatar.

Uses: Grazed by animals.

Scrophularia L.

Scrophularia deserti Del. Fl. Aegypt. Ill. t. 33, f. 1 (1813).

Arabic: Na'am, Zeita.

Woody bushy perennial 20–50 cm high. Branches erect sparingly leafy. Main stem quadrangular, greenish red, glabrous. Lower leaves lyrate, deeply lobed, 8 x 3 cm, upper leaves linear, sessile, obtusely lobed, 2–3 cm long. Flowers dark red or pink on elongated branches with short cymes. Calyx 5-lobed, white-margined. Corolla 5-lobed, bilabiate, twice the calyx length, deep red. Capsule globose, brown, bilobed enclosed on bilipped hard calyx, shortly beaked.

Flowering: March.

Habitat: On runnels and stony grounds.

Distribution: Common in Qatar especially in south and centre.

Uses: Grazed by animals.

Veronica L.

Veronica cymbalaria Bod. Diss. 3 (1798).

Annual herb 20–30 cm high. Branches slender pubescent. Leaves opposite, ovate, 3 x 2 cm, obtuse, rounded to cordate, base crenate, subglabrous. Petiole 0.5 cm long, pubescent. Flowers white, axillary, solitary. Pedicel 2 cm long. Calyx 4-lobed, ovate, pubescent. Corolla 5-lobed, white, retate. Capsule 2-lobed, 2-4 seeded, brown.

Flowering: April.

Habitat: Irrigated grounds.

Distribution: In gardens in Doha.

SOLANACEAE

Lycium L.

Lycium shawii Roem. & Schult., Syst. Veg. 4: 693 (1819).

Arabic: Awsaj.

Thorny shrub up to 3 m high. Branches rigid, tapering into spines. Leaves clustered on nodes, oblong-spathiolate, 1 x 0.2–0.3 cm, rounded, cuneate, sessile with a prominent midrib, usually variable in size, pubescent to glabrous. Flowers axillary, solitary, violet. Calyx 5-lobed, tubular. Corolla 5-lobed, violet, funnel-shaped, ovate with prominent dark mid vein, 3-4 times the calyx length. Fruit red, globose, many seeded berry, obtusely beaked.

Flowering: Throughout the year.

Habitat: Tolerates all sorts of soils.

Distribution: Very common all over Qatar and also associated with Ziziphus and Acacia species.

Uses: Berries eaten by man. Grazed by animals. Used as firewood.

Physalis L.

Physalis angulata L., Sp. Pl. 183 (1753).

Probably introduced in cultivation.

Annual herb 30–50 cm. Stems green, smooth. Leaves ovate 3–6 x 2–4 cm, alternate, acute, cordate, serrate or entire. Flowers axillary, yellow, solitary. Calyx green, 5-lobed, inflated. Corolla 5-lobed, yellow. Fruit globular berry, yellow, enclosed in inflated calyx, bright green, later pinkish.

Flowering: May.

Habitat: Cultivated soils.

Distribution: Cultivated gardens and fields.

Solanum L.

Solanum elaegnifolium Cav. Icon. Descr. 3: 22 (1795).

Annual herb 30–40 cm high. Stem prickly, whitish. Leaves oblong to oblong-lanceolate, entire 7 x 3 cm. Mid-rib prominent. Flowers violet in axillary cymes. Pedicels long, 4 cm, green. Calyx 5-lobed, green. Corolla 5-lobed, violet. Fruits globose

berries, shiny, many seeded, 1–1.5 cm diameter, green, ripening into yellow brown with persistent calyx.

Flowering: March–May.

Habitat: Cultivated soils.

Distribution: Northern Qatar.

S. nigrum L., Sp. Pl. ed. 1, 186 (1753).

Arabic: Inab el Deeb.

Annual herb 30–40 cm high. Branches pubescent from base. Leaves ovate, 5 x 3 cm, dentate, acute. Flowers axillary, umbellate; pedicels 2 cm long. Calyx 5-lobed, green. Corolla 5-lobed, twice as long as calyx. Berries black, globose, 7–8 mm diameter.

Flowering: March–April.

Habitat: Cultivated soils.

Distribution: East of Qatar.

Uses: Grazed by animals.

TAMARICACEAE

Tamarix L.

Tamarix aucheriana (Decne.) Baum.

Arabic: Athl.

Shrubby plant 2 m high. Stem woody, brown-pinkish. Branches erect, covered with triangular adnate leaves. Leaves fleshy scale-like, auriculate, triangular, less than 1 mm in length and width, acute, adnate-truncate at the base, densely crowded on branches. Flowers on many terminal spikes, pink, 2–6 cm long. Petals 5, pink, obovate 3–5 mm long. Anthers 10. Fruit pinkish brown, conical, 0.5 cm long.

Flowering: April–May.

Habitat: On sandy and stony grounds.

Distribution: Western Qatar at Jebel Dukhan.

Uses: Grazed by all animals. Also used as firewood. Used as shelter belts, firewood, provides tannins from bark.

T. passerinoides Del. ex Desr. Ann. Sci. Nat. Ser. 1, 4: 349 (1825).

Arabic: Athl, Tarfa.

Shrubby plant 1–1.5 m high. Branches dark brown-pinkish. Leaves scale-like, strobilate, triangular, less than 1 mm in length, acute, truncate, numerous holes and spots on leaf surface. Flowers light pinkish in catkin-like spikes. Calyx 5-lobed. Corolla 5-lobed, persistent. Stamens 6-10. Capsule conical 7–8 mm diameter with numerous seeds.

Flowering: April–August.

Habitat: Saline soils.

Distribution: South-west Qatar; Jebel Dukhan.

Uses: Grazed by animals and used as firewood.

T. ramossissima Ledeb. Fl. Alt. 1: 424 (1829).

Reported by Batanouny but not seen by the author.

T. aphylla (L.) Karst. Deutch. Fl. 641 (1880-83).

This is introduced as a hedge and afforestation tree and is planted as a shelter belt in agricultural farms.

TILIACEAE

Corchorus L.

Corchorus depressus (L.) Stocks. Proc. Linn. Soc. 1: 367 (1848).

Arabic: Mulukhia El Bar.

Flat prostrate compact perennial herb 25 cm long. Branches spread thickly from the woody base, pinkish. Leaves small elliptic to suborbicular, crenate 0.3–1 x 2–0.5 cm. Stipules 2 mm long, linear. Petiole up to 0.5 cm long. Flowers yellow, axillary, cymose, 2-flowered. Calyx 5 lobed, 7 mm long. Corolla 5-lobed, yellow. Stamens 10. Capsule oblong-cylindrical 1–2 x 0.2 mm, curved, beaked. Seeds many, dark green.

Flowering: March–April.

Habitat: On compact sand soils.

Distribution: Common all over Qatar.

Uses: Grazed by animals.

UMBELLIFERAE

Foeniculum Mill.

Foeniculum vulgare (L.) Mill. Gard. Dict. 8, No 1 (1768).

Arabic: Shamar.

Green aromatic herb 1.5 m high. Stems green, furrowed. Leaves 10 cm long, divided into filiform segments 4–5 cm long and further subdivided into linear segments, glabrous, nodes sheathed, furrowed. Flowers yellow, umbellate, many rayed. Peduncle 4 cm long. Peduncle 4 cm long. Pedicel 1 cm long. Fruits schizocarp oblong-cylindrical 5 x 3 mm.

Flowering: March–May.

Habitat: Irrigated light soils.

Distribution: It is a cultivated vegetable.

Uses: Popular vegetable stewed or used as a salad.

Remarks: Other species have been mentioned by collectors and are mostly cultivated or newly introduced. e.g.
Amni majus. l.
Anthem graveolens L.
Bupleurum semicompositum L.

URTICACEAE

Forskohlea L.

Forskohlea tenacissima L., Mant. i. 72 (1767).

Arabic: Losseig.

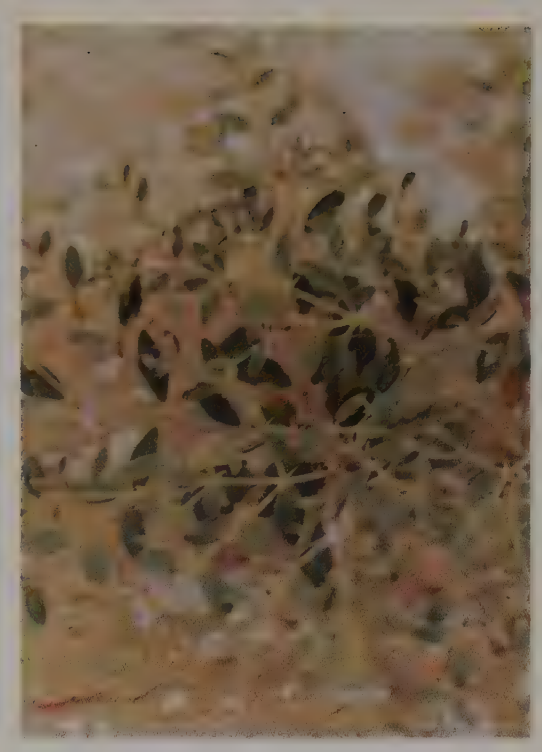
Small annual herb 10–30 cm high. Branches erect, pinkish, long hairy. Leaves alternate, ovate 2–3 x 1 cm, acute, cuneate. Stipules small 1 mm long, lower surface whitish, deeply serrate with sticky adhesive hairs. Petiole 2 cm long, pubescent. Flowers small spikes. Calyx 5-6 lobed, pubescent below, membraneous, yellow green. Corolla absent, anthers yellow. Fruit an achene enveloped in the sepaloid perianth.

Flowering: March–April.

Habitat: Sandy soils and gravelly depressions.

Distribution: Rare in Qatar.


Fagonia indica


Fagonia ovalifolia

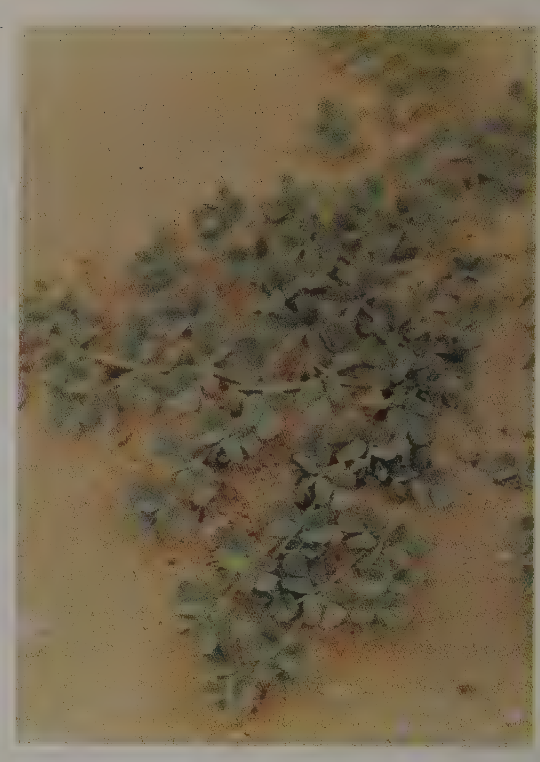

Fagonia tenuifolia


Tribulus pterophorus

PLATE NO. 21:



Tribulus terrestris



Seetzenia orientalis



Zygophyllum quatareuse



Zygophyllum simplex

PLATE NO. 22:



Cyperus conglomeratus



Avena sterilis



Chloris barbata



Cynodon dactylon

PLATE NO. 23:



Dactyloctenium aegypticum



Hordeum vulgare



Lasuirus hirsutus



Panicum turgidum

PLATE NO. 24:

Parietaria L.

Parietaria alsinifolia Del., Fl. Aegypt. 137, tab. 50, Fig. 2 (1812).

Annual slender herb 6–30 cm high. Branches slender, striate, pilose. Leaves alternate, ovate to obicular, 1–2.5 x 1 cm, acute, cuneate pubescent to round, entire. Petiole 2–3 cm long. Flowers axillary, campanulate. Achene ovoid 1.2 mm long.

Flowering: March–April.

Habitat: On gravelly soils in shade.

Distribution: Rodats, El Magda rodat.

Urtica L.

Urtica urens L. Sp. Pl. ed. 1. 984 (1753).

Arabic: Hikeik.

Annual herb 20–40 cm high with stinging hairs. Branches ascending pubescent, striate. Leaves opposite, ovate-elliptic, 3–5 x 2–3 cm, acute, cuneate, deeply dentate, surface covered with stinging hairs. Petiole 2–3 cm long. Stipules 0.1 cm long, pilose. Flowers axillary spikes, sub-sessile, 1 cm long. Male flower white, hairy. Female flower ovoid ovary. Perianth segments adnate to fruit.

Flowering: March–April.

Habitat: Cultivated grounds and houses on moist shady places.

Distribution: Irrigated gardens, Palace garden Doha.

VERBEBACEAE

Stachytarphaeta Vahl.

Stachytarphaeta augustifolia (Mill.) Vahl.

Annual herb 20–30 cm high. Lower leaves lanceolate, opposite, coarsely serrate, acute, cuneate, 9 x 3 cm, glabrous, semi succulent. Upper leaves small 0.2 x 0.1 cm, closely alternating scale-like, emarginate or acute. Flowers pale blue or lilac on axillary spikes up to 30 cm long. Bracts oblong-lanceolate, acuminate, glabrous.

Flowering: March–April.

Habitat: On depressions on light soils.

Distribution: Rodat and runnels in central Qatar.

Uses: Grazed by animals. In West Africa it is used medicinally to treat dysentery, heart troubles, eye and ear sores.

ZYGOPHYLLACEAE

Fagonia L.

Fagonia bruguiera DC. Prodr. 1: 704 (1824).

Arabic: Dhreima, Shaga.

Thorny woody flat perennial 25 cm high. Stems many branches, spreading, pale green, striate, grooved, radiating. Stipular spines 0.5–2 cm long, usually longer than leaves, green turning yellow when dry. Lower leaves trifoliate, upper ones simple. Leaf blade green, opposite, narrowly elliptic, mucronate, entire, acute, cuneate 4–2 cm x 0.1–0.4 cm. Flowers pink, solitary. Calyx 5-lobed, persistent. Corolla 5-lobed. 0.4–1 cm long, pink. Capsule 5-locular, conical, splitting from below, pubescent, spiny beaked.

Flowering: March–April.

Habitat: On gravelly and sandy soils.

Distribution: Common all over Qatar.

F. glutinosa Del. Fl. Aegypt. Ill. 230, 86, t. 28, f. 2 (1813).

Arabic: Dhreima, Shaga.

Glandular perennial prostrate herb 30 cm long. All parts of the plant are covered with viscid glands. Branches terete with long internodes, 5–6 cm long. Leaves trifoliate, opposite. Leaflet elliptic, the terminal obovate, 1–1.5 x 1 cm, the laterals smaller, acute, cuneate, entire covered with sand particles. Stipular spines short 0.3 cm long or absent. Flowers axillary, small, pinkish. Calyx 5-lobed, persistent. Corolla 5-lobed, pink. Capsule 5-locular, glandular-sticky, pale pinkish.

Flowering: March–April.

Habitat: Gravelly and sandy soils.

Distribution: Central and northern Qatar, Dukhan, Wakra, Abu Samra.

Uses: Grazed by animals.

F. indica Burm. f., Fl. Ind. 102, t. 34, fig. 1 (1768).

Syn: F. Parviflora Boiss.

Arabic: Dhreima, Shaga.

Prostrate perennial herb 30–40 cm long. Branches spreading or erect, glabrous. Stipular spines 2 cm long. Leaves simple lanceolate to oblong-linear, dark green 2 x 0.6 cm, acute, cuneate, entire. Flowers pink, solitary, axillary. Calyx 5-lobed, persistent. Corolla 5-lobed, pink. Capsule 5-locular, pubescent, 0.5 cm diameter.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Common all over Qatar; Karaana, Shahania.

F. ovalifolia Hadida in Rech., Fl. 98: 2 (1972).

Arabic: Dhreima

Perennial prostrate herb 30–40 cm long. Branches prostrate or ascending, glabrous. Stipular spines 0.5–1 cm long, always smaller than leaves. Leaves simple, opposite, green, ovate 1.5–2 x 1 cm, mucronate, rounded base to cuneate, entire. Flowers solitary, axillary, pink. Calyx 5-lobed, apiculate, deciduous. Corolla 5-lobed-obovate, emarginate, pink. Stamens 10. Capsule 5-locular, 0.5 cm diameter.

Flowering: March–April.

Habitat: Sandy soils.

Distribution: Very common all over Qatar.

Uses: Eaten by animals.

F. tenuifolia Steud. & Hochst. ex Boiss. Fl. Orient. i. 909.

Syn: F. cretica L.

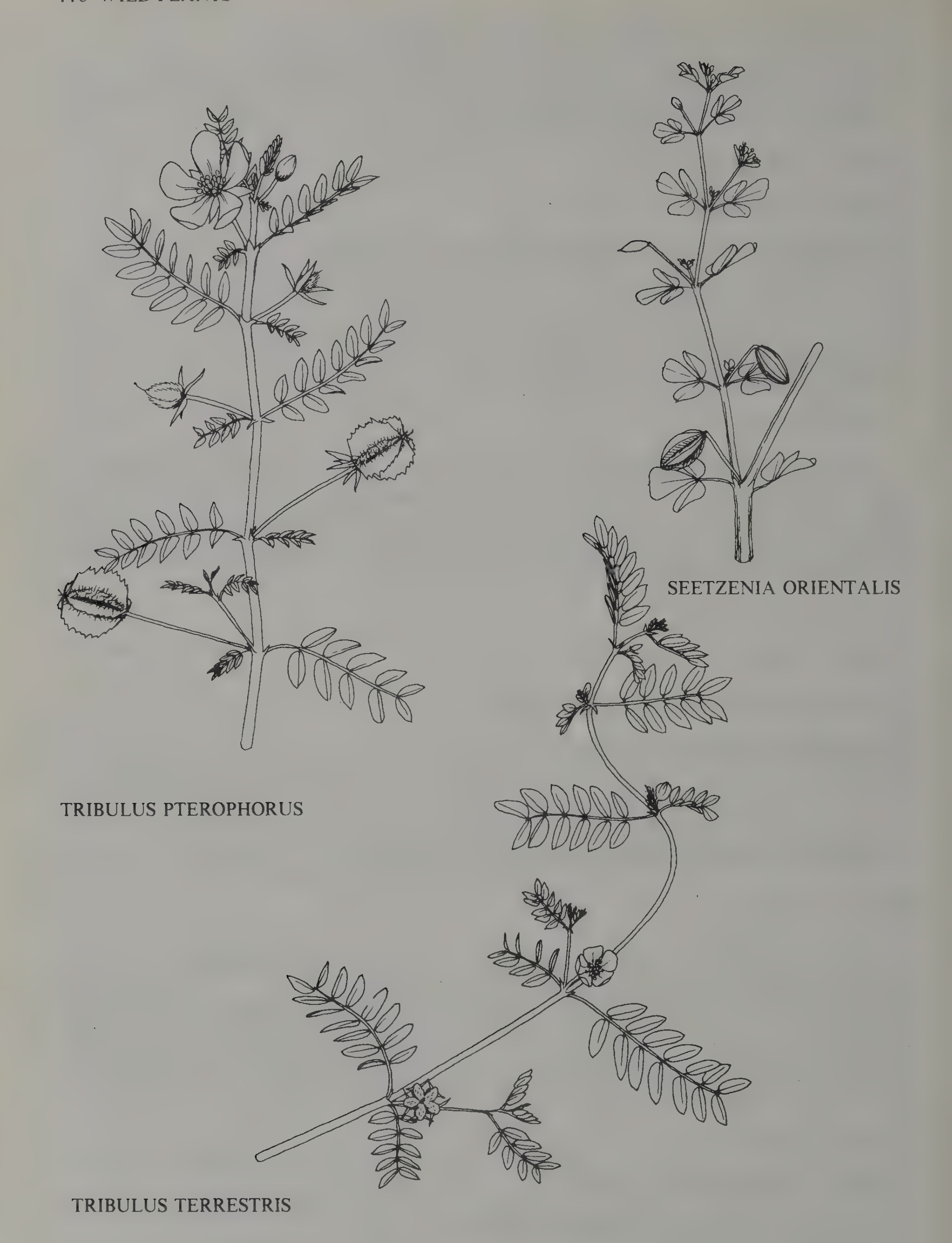
Perennial prostrate herb 20–30 cm high. Branches spreading green, glabrous. Leaves opposite, trifoliate, middle leaflet largest, oblong-elliptic, 0.5–2 x 0.1–0 cm, acute, cuneate, entire, glabrous. Petiole 1–1.5 cm long, glabrous. Spines smaller than leaf or petiole 0.2–0.5 cm. Leaves aromatic. Flowers axillary, solitary. Pedicel 0.3 cm long. Calyx 5-lobed, green, scarious margin, 0.2 cm long. Corolla 5-lobed, violet, longer than calyx, 0.5 cm long. Fruit conical, 0.4 cm diameter, 5-lobed, beaked.

Flowering: April.

Habitat: Sandy depressions, runnels.

Distribution: Central Qatar, Shahania, Karaana.

Uses: Grazed by some animals.


SEETZENIA ORIENTALIS
TRIBULUS PTEROPHORUS
TRIBULUS TERRESTRIS

Seetzenia R. Br.

Seetzenia orientalis Decne. Ann. Sci. Nat. Bot. Ser. 2, 3: 281, t. 7 (1835).

Arabic: Habein.

Prostrate perennial herb, 30 cm long. Branches glabrous green. Leaves opposite, trifoliate, fleshy. Leaflets rhombic to obovate 1 x 0.5 cm, mucronate, cuneate, entire, margin whitish, laterals smaller. Stipules small, ciliate membraneous. Petiole 0.4 cm long. Flowers axillary, solitary. Pedicel 0.7–0.8 cm long. Calyx green, 5-lobed, persistent on fruit. Corolla absent. Stamens 5. Capsule globular to oval to elliptic, yellow, 1–1.3 cm diameter, 5-lobed.

Flowering: March–April.

Habitat: Sandy and gravelly soils.

Distribution: South Qatar; Wakra, Mukeinis, Karaana.

Uses: Grazed by animals.

Tribulus L.

Tribulus pterophorus Presl. in Bot. Bemerk. 30 afr. austr.

Erect perennial herb 30–50 cm long. Branches white, green erect, densely pubescent. Leaf paripinnate, 2 cm long. Leaflets oblong linear 5-6 pairs, 0.5 x 0.2 cm, acute, asymmetrical base, appressed pubescent. Flowers yellow, axillary on 1 cm long pedicels. Calyx 5-lobed, green, pubescent. Corolla 5-lobed, yellow. Stamens 10. Ovary white-hairy. Fruit globose to elliptic, 5-lobed densely hirsute but not spinose with marginal glabrous wings, 1 cm diameter.

Flowering: March–April.

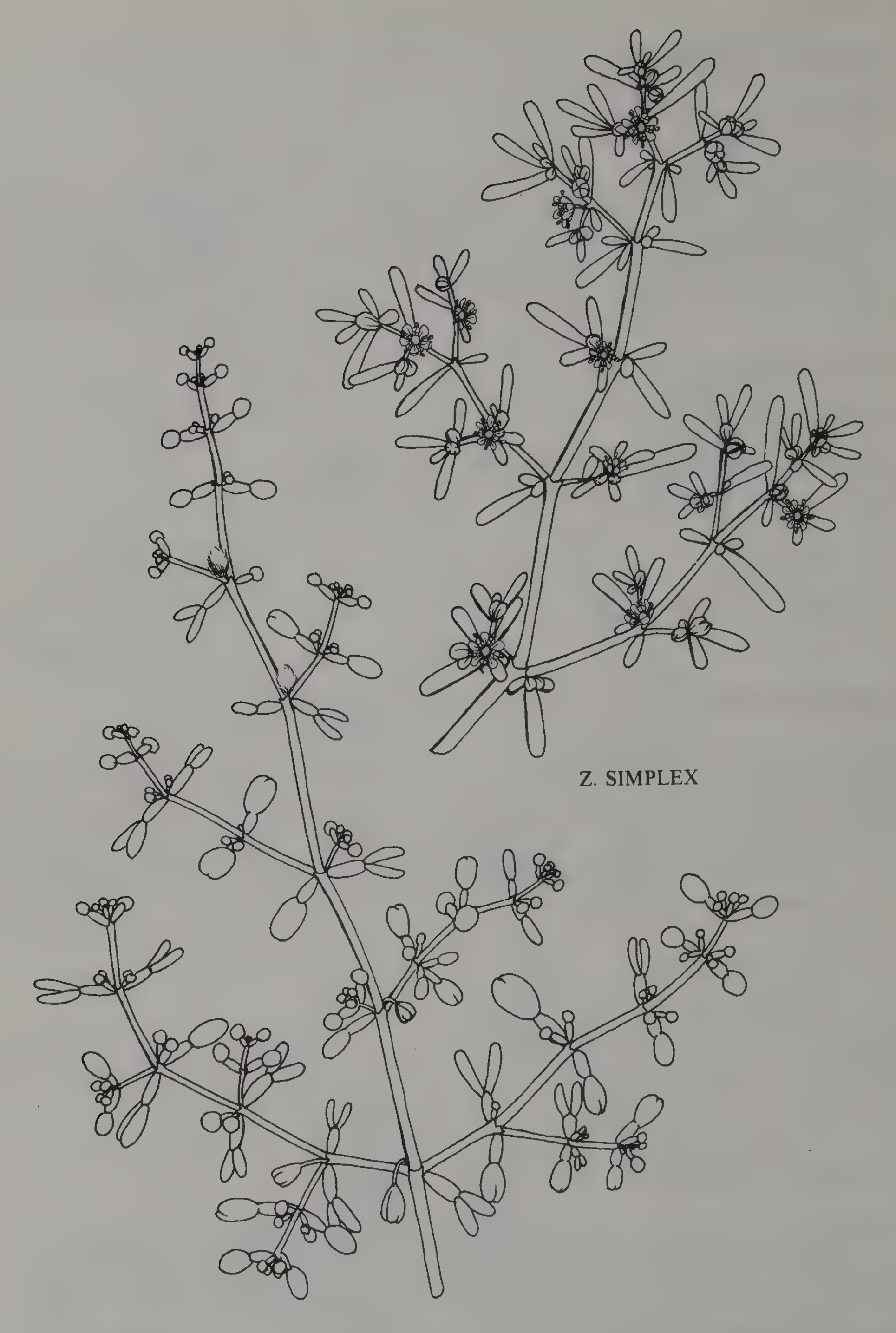
Habitat: Gravelly and stony soils.

Distribution: South Qatar, Mahsoubia.

Uses: Grazed by animals.

T. terrestris L., Sp. Pl. ed. 1. 387 (1753).

Prostrate perennnial herb, 30 cm long. Branches hirsute, spreading. Leaves pinnate, 8 cm long, opposite. Leaflets 5-8 pairs, linear-oblong, 1.5 x 0.5 cm, acute, asymmetrical base. Stipules lanceolate 0.3 cm long, pubescent. Flowers yellow, axillary, solitary. Calyx 5-lobed, 0.5 cm long. Corolla 5-lobed, 1 cm long, yellow. Stamens 10. Fruit globose, 1 cm diameter, hairy and armed with rigid prickles.



Z. QUATARENSE

ZYGOPHYLLUM SSP

Flowering: March–May.

Habitat: Stony and gravelly soils.

Distribution: South and central Qatar.

Uses: Grazed by animals. In eastern Sudan the fruit is used a diuretic to treat bladder troubles.

Zygophyllum L.

Zygophyllum quatarense Hadidi in Boul. Webb. 32, 2: 394 (1978).

Arabic: Harm.

Shrublet, perennial, fleshy, 40–60 cm high. Branches ascending, purple when young, then changing into woody, pubescent. Leaves fleshy, 2 foliate changing into unifoliate, 0.5–0.8 cm x 0.4 cm, closely arranged on branches on fleshy cylindrical petioles. Stipules triangular. Flowers green, yellowish, axillary, solitary. Calyx 5-lobed, glandular. Corolla 5-lobed, spathulate. Stamens 10. Capsule 4 x 9 mm, 5 angles.

Flowering: March–April.

Habitat: Saline soils and rocky soils.

Distribution: Very common all over Qatar.

Uses: Grazed as Handh.

Z. simplex L., Mant. 68 (1767).

Arabic: Girm.

Annual prostrate succulent herb, 50 cm long. Branches green-pinkish, succulent, glabrous, spreading flat on ground. Leaves fleshy, simple, 1–2 cm x 0.8 cm, cylindrical, obtuse, cuneate, glabrous. Stipules lanceolate, membraneous. Flowers yellow, axillary, 1-2 flowers. Calyx 5-lobed, margin scarious. Corolla 5-lobed, yellow, clawed. Capsule globular, 2–3 mm diameter, 5-carpeled.

Flowering: March–April.

Habitat: Saline rocky and stony ground.

Distribution: Very common all over Qatar.

Uses: Grazed as Hamdh.

MONOCOTYLEDONAE

CYPERACEAE

Cyperus L.

Cyperus conglomeratus Rottb. Descr. & Icon. 21, t. 15, f 7 (1773).

Arabic: Ardeb, Rasha, Thunda, Sa'ed.

Densely tufted perennial herb 30–50 cm high. Roots woody rhizome, hairy. Stem compressed, leafy at the base, base 3-sided at the upper part. Leaves linear, grooved, pungent up to 30 cm x 0.5 cm, sheathed. Inflorescence dense umbellate head of 3-4 umbels rays. Umbellate heads 2–4 cm in diameter, reddish brown. Spikelets 6 or more, 10-18 flowered. Nut 3 sided.

Flowering: All year round.

Habitat: Sandy habitats with some moisture around.

Distribution: Common in Qatar with 3 varieties: var. ***aucheri*** (Jaub. & Sp.) C. B. Cl. (1895).

Dark green thick stems. Umbel 1-2 rayed. Spikelets up to 5 cm long and 6 mm broad, straw coloured or whitish.

Var. ***effusens***. Kockenth.

Spikelets 3 mm broad with terete, rigid, pungent leaves.

var. ***multiculmis*** Kuckenth.

Spikelets 3 mm broad. Leaves flat or convolute.

Flowering: March–May.

Habitat: Sandy saline soils.

Distribution: On sandy shores on southern and central Qatar.

Uses: Good fodder for camels and other animals.

Cyperus L.

Cyperus laevitus L., Mant. Pl. 2: 179 (1771).

Stem leafless, trigonous, succulent, green grass 30–40 cm. Spikelets green, up to 12 together a small sessile lateral cluster, oblong lanceolate, 8 mm long, 10-23 flowered. Glumes brownish, brownish to white, 3 nerved.

Flowering: March–April.

Habitat: Saline sea coasts in marshy depressions.

Distribution: Southern Qatar, Abu Samra.

Uses: Fodder for camels.

C. rotundus L., Sp. Pl. 67 (1753).

Arabic: Sa'ad.

Perennial herb 30–50 cm long. Culms erect or spreading. Stolons with dark black elliptic rhizomes. Culms 3-sided, leafy at base. Leaves basal, linear-lanceolate, greenish, fleshy, 15 x 20 x 0.3–0.6 cm. Inflorescence congested spikes, sub-umbellate, brownish-pinkish. Bracts lanceolate, 10 cm long, longer than inflorescence. Spikelets linear-lanceolate, 1–2 x 0.2 cm, 20-30 flowered.

Flowering: All year round.

Habitat: Moist soils and irrigated canals.

Distribution: Common in cultivated fields.

Uses: Grazed by animals.

GRAMINEAE

Aeluropus Trin.

Aeluropus lagopoides (L.) Trin. ex Thwaites. Enum. Pl. Zehl. 374 (1869).

Arabic: Ikrish.

Rigid perennial grass with tufted culms, 50 cm high. Rhizomes hairy, scaly. Erect shoots arise from prostrate branches (stolons), each branch ends with a spikelet. Leaves linear; lanceolate, 4 x 0.2 cm. Legules hairy. Inflorescence terminal on branches, oblong 1–1.5 cm long, 1-sided. Spikelets arranged opposite, compact.

Flowering: March–May.

Habitat: On sandy salty depressions.

Distribution: Common especially in southern parts.

Uses: Good fodder for animals. Also the rigid tufts help to compact the loose sandy soil.

Aristida L.

Aristida abnormis Chiov. Ann. Inst. Bot. Roma, 8: 48 (1903).

Small annual grass with prostrate spreading culms, 15–20 cm high. Leaves linear-lanceolate, 5 x 0.8 cm, glabrous or pubescent at nodes. Panicle feathery 10 x 3 cm, pink. Awns 3, 1.5 cm long. Caryopsis cylindrical, 1 x 0.1 cm, tapering into an arrow end, pink with white hairs.

Flowering: April.

Habitat: On rocky and stony grounds.

Distribution: Rare in northern parts, north road.

Uses: Fodder for animals.

A. meccana Hochst. ex Trin. & Rupr. Mem. Acad. Peters., Ser. 6. 7 152 (1849).

Arabic: Derari, Harash.

Annual tufted grass, 40 cm long. Culms erect. Leaves linear, 8 x 0.4 cm. Sheath 8 cm long. Legule hairy. Panicle 6–7 cm. Awns 3, 2 cm long. Caryopsis cylindrical 1 x 0.1 cm, pointed head, hairy.

Flowering: April.

Habitat: On stony ground.

Distribution: Northern Qatar.

Uses: Eaten by animals.

Arunda L.

Arunda donax L., Sp. Pl. ed. 1, 81 (1753).

Tall perennial bamboo-like grass up to 6 m high. Rhizomes thick, knotty. Culms erect, sparingly branched, fistulose. Leaves 2 ranked, 500–600 x 4–6 cm, lanceolate. Base of leaf with 2 brown auricles. Inflorescence branched panicles up to 60–70 cm long. Spikelets several flowered. Glumes equal in length, long pointed, about as long as spikelet. Lemmas pubescent, 3-nerved, mid nerve extends into a short awn.

Flowering: April.

Habitat: Irrigated canals.

Distribution: Rare, recorded by Batanouny in El Wabra.

Uses: Grazed by animals.

Astenatherum Nevski.

Astenatherum forsskalii (Vahl.) Neveski. Act. Univ. As. Med. Ser. 8b, Bot. Fasc. 17: 8 (1934).

Perennial decumbent grass 15–60 cm high. Culms woolly, tufted or with creeping stolons. Leaves linear-lanceolate, 4–8 x 0.4–0.7 cm, pungent, pubescent. Sheath covered with silky hairs, striate with a tuft of white hairs at base. Panicle dense, narrow, enveloped in the upper sheath, 2.5–11 cm long. Spikelets 2-4 flowered, 7–8 mm long. Glumes nearly equal, lanceolate, 7-nerved. Lemmas bifid, hairy. Awn straight or geniculate, 3–5 mm long.

Flowering: April–May.

Habitat: Sandy soils.

Distribution: Southern Qatar; Salwa, Wadi El Galail.

Uses: Fodder for animals.

Avena L.

Avena sterilis L., Sp. Pl. ed. 2: 118 (1762). ssp. ***ludiviciana*** Gillet. & Magne.

Arabic: Shuffan.

Annual erect grass up to 1 m high. Leaves lanceolate, 15 x 1 cm. Sheath striate, glabrous, scabrous above on margins; Legules up to 6 mm long. Panicle 30 cm long, 3-4 flowered loose pendulous spikelets. Glumes striate, 2–3 cm long, lanceolate. Lemmas 2–4 cm long, pubescent. Awn 5 cm geniculate, pubescent, dark brown, long bent at 1/3 of its length.

Flowering: April.

Habitat: On wet gardens or cultivated fields.

Distribution: On rodat, Doha avenue canals.

Uses: Fodder for animals.

Bromus L.

Bromus danthoniae Trin., Verz. Pfl. Canc. 244 (1831).

Annual grass 30–40 cm high. Culms erect, ascending. Leaves lanceolate, linear, 10 x 0.4 cm. Sheath 3 cm long, striate, pubescent. Inflorescence with several spikelets, many flowered. Glumes unequal, finely pointed. Lemmas 2-toothed with purple 1 cm long, awns 3–6 cm long.

Flowering: April.

Habitat: Irrigated moist soils.

Distribution: South of Doha.

Uses: Grazed by animals.


CYMBOPOGON COMMUTATUS
AELUROPUS LAGOPOIDES
ASTENATHERUM FORSSKALII

Cenchrus L.

Cenchrus ciliaris L., Mant. Pl. 302 (1771).

Perennial grass with tufted ascending culms, 30–40 cm high. Roots woody. Leaves linear 5–10 x 0.3 cm, the lower ones ciliate. Sheath up to 4 cm, striate. Inflorescence spicate, compact, soft hairy, 4–7 cm long. Spikelets solitary with bristles in 2 rows, the longer 1.5 cm long, the other 1.2 cm long, green, becoming dark pink. Spikelets spaced.

Flowering: April.

Habitat: On irrigation drains in farms on compact soils.

Distribution: On edges of cultivated farms; El Jamiley, Dukhan.

Uses: Grazed by animals.

C. pennisetiformis Hochst. & Steud. Nom. Bot. ed. 2 (1): 217 (1840).

Annual grass up to 40 cm high. Culms erect. Leaves linear-lanceolate, 10 x 3 cm. Sheath 3–4 cm, striate. Inflorescence one spikelet. Flowers solitary, alternate, green-pinkish, awnless. Bristles arise from base of flower up to 1 cm long, pink.

Flowering: April.

Habitat: Moist irrigated canals.

Distribution: Cultivated rodat in central Qatar.

Uses: Grazed by animals.

Chloris Swartz.

Chloris barbata Swartz., Fl. Ind. Occ. 1: 200 (1797).

Arabic: Sineim.

Perennial decumbent and erect grass 40–90 cm high, loosely tufted. Legules hairless. Leaves linear-lanceolate, 20–35 x 0.5 cm, base hairy. Upper sheath often inflated. Inflorescence 5-15 spikes, digitate, unequal in length, 3–8 cm long, dark pink or reddish brown. Spikelets closed arranged on spikes in 2 rows, 3-flowered. Awns 3. Lemma ovate-elliptic, 2–2.5 mm long, ciliate on margin. Awns 4–7 mm long. Seed triangular with 3 terminal soft hairs, dark pink.

Flowering: April.

Habitat: On moist irrigation canals.

Distribution: In cultivated farms especially in the north.

Uses: Good fodder for animals.

Chrysopogon Trin.

Chrysopogon aucheri (Boiss.) Stapf. in Kew Bull. (1907).

var. ***quinqueplumis*** (A. Rich.) Stapf.

Arabic: Halta.

Perennial grass, 50 cm long. Leaves short, crowded at base, 2.5 x 0.2 cm, linear lanceolate, pubescent at base. Sheath 5 cm long. Panicle 20 cm long, branched terminal open, bearded at tip. Spikelets compressed in 3s, 2 pedicelled, one sessile. Pedicelled spikelets with 4 awns. Awn 2–3 cm long. Glumes with white plumose awns in the lower half.

Flowering: April.

Habitat: Stony and rocky ground.

Distribution: Central Qatar, Gamileya road-Doha-El Khor road.

Uses: Eaten by all animals.

At Kew, this species name is changed to ***C. plumulosus*** Hochst. and it will need more collections from Qatar to ascertain the differences.

Cutandia Willk.

Cutandia memphitica (Spreng.) Benth. Journ. Linn. Soc. Bot. 19: 118 (1881).

Arabic: Thaiyil.

Annual grass with many fasciled purple-noded culms, 30 cm high. Leaves linear 10 x 0.5 cm, narrower than sheath. Sheath inflated up to 11 cm long, striated. Inflorescence 15 cm long, dichotomously divided panicle. Spikelets alternate, subtended by long spadix, 8 mm long. Flowers in pairs dichotomously forked by two short pedicels, glandular at the base, pinkish to green. Lemmas mucronate.

Flowering: April.

Habitat: On sandy soils.

Distribution: Southern Qatar.

Uses: Fodder for animals.

Cymbopogon Spreng.

Cymbopogon commutatus Stapf. in Kew Bull. 19: 7, 211 (1907).

Arabic: Sakhbar.

Perennial aromatic erect grass 1 m high. Stem densely tufted, terete, 5-noded below the panicle. Legule membraneous, ciliate. Leaf linear flexuous, almost filiform, 10–20 x 0.1 cm. Sheath glabrous, 4 cm long. Panicle erect 30–40 cm long, fertile. Spikelets linear, alternate as broad spadix, 2-flowered, 6–10 cm long, green turning straw-coloured. Lowest pedicel swollen hard. Glume wholly white, unequal, 3-nerved, keeled.

Flowering: April.

Habitat: On shallow depressions.

Distribution: Central and northern Qatar, Dukhan, Um Salal Ali, El Wakeir.

Uses: Grazed by animals, especially sheep.

Remarks: All Qatar specimens previously identified as ***C. parkeriane*** now under above name.

Cynodon *Rich.*

Cynodon dactylon (L.) Pers. Syn. Pl. 1: 85 (1805).

Arabic: Thayeil.

Perennial creeping and spreading grass 30 cm high. Stolons spreading with hairy roots at nodes, nodes pinkish. Leaves linear-lanceolate, 6–10 x 0.5 cm. Peduncles 20 cm high, terminating on 4-5 digitate pinkish spikes. Spikes 3–5 cm long. Spikelets in 2 rows, crowded, small.

Flowering: Most of the year.

Habitat: In irrigated gardens on compact soils.

Distribution: Common in Qatar in cultivated fields.

Uses: Eaten by animals. Used as a green lawn in gardens.

Dactylactenium *Willd.*

Dactylactenium aegyptium (L.) P. Beauv. Ess. Agrost. Expl. Pl. 15 (1812).

Arabic: Nagm.

Annual spreading or erect grass 30 cm high. Stolons rooting at nodes, light green, glabrous. Leaf linear-lanceolate, up to 15 cm long, stout, ciliate at margin and hairy at the base. Peduncles 15 cm high, terminating in 3-6 digitate light green spikes, 3 cm long. Spikelets 3-4 flowered, compressed in 2 rows, terminating in solitary tip.

Flowering: April–May.

Habitat: At edges of rodat on compact soils or in irrigated drains.

Distribution: Common in Qatar.

Uses: Fodder for animals but not of high value. In Egypt and Kenya it is used as a cure for nervous diseases and kidney problems.

Dichanthium Willemet.

Dichanthium annulatum (Forssk.) Stapf. in Prain. Fl Trop. Afr. 9, 178 (1917).

Perennial erect herb with woody rhizome, 50–90 cm high. Culms erect with hairy nodes; nodes pinkish. Leaves linear 7–8 x 0.2 cm. Inflorescence brown, 3-6 digitate, pinkish racemes. Spikelets alternate on rachis, awned, rachis unequal.

Flowering: April.

Habitat: On moist fields and depressions.

Distribution: Common in Qatar especially in centre and north.

Uses: Fodder for animals.

D. foveolatum (Del.) Stapf. Fl. Trop. Afr. 9: 103 (1917).

Perennial tufted grass, many stemmed, 40–60 cm high. Leaves linear 15–20 x 0.4 cm. Nodes hairy. Sheath 4 cm long, striate. Panicle in ascending closely packed spikes, 3–5 cm long. Spikelets soft white-hairy, 3 cm long. Awns 2.5 cm long, bent, lower half dark brown, upper white.

Flowering: April.

Habitat: Sandy soils.

Distribution: Common in Qatar, Um Salal Ali, Dukhan, El Khor, El Wakra.

Uses: Fodder for animals.

Digitaria Heist. ex Fabr.

Digitaria sanguinalis (L.) Scop. Fl. Carn., ed. 2, 1: 52 (1772).

Annual erect grass, branching from base, up to 50 cm high. Basal parts of culms pinkish nodes slightly swollen, pubescent. Sheath up to 5 cm long, striate. Leaves lanceolate-linear, 5–15 x 0.8–1 cm. Sheath dense, hirsute. Panicles terminal in umbellate spikes, compact, 10 cm long, green or tinged pink with many flowers. Flowers lanceolate-ovate, acute.

Flowering: May.

Habitat: Irrigated canals.

Distribution: Cultivated fields, Wabrah.

Uses: Fodder for animals.



Pennisetum divisum



Phragmitis australis



Polypogon monspeliensis



Setaria verticillata

PLATE NO. 25:



Sporobolus arabicus



Stipagrostis plumosa



Juncus rigidus



Asphodelus fistulosus

PLATE NO. 26:

Dipcadi erythreum

Phoenix dactylifera

PLATE NO. 27:



Lolium rigidum

PLATE NO. 28:

Echinochloa P. Beauv.

Echinochloa colonum (L.) Link., Hort. Berol. 2: 209 (1833).

Arabic: Difra, Modeid.

Annual pink grass, 20–30 cm high. Culms decumbent, rooting at lower nodes, succulent. Leaves lanceolate-linear, 5--8 x 0.5 cm, glabrous, pinkish-green. Legule absent. Panicle 6–8 cm long with pink alternate spikes, 2 cm long. Spikelets in 4 rows, awnless almost sessile, acute.

Flowering: April.

Habitat: In moist places in fields and gardens.

Distribution: Common in cultivated rodat in central Qatar.

Uses: Good fodder for animals.

Eleusine Gaertn.

Eleusine compressa (Forssk.) Asch. & Schweinf. ex Christens Dansk. Bot. Archiv. 4 (3): 12 (1922).

Arabic: Sineim, Homra.

Stout perennial grass 40 cm high. Culms tufted, rooting at nodes with stalon-like stems. Leaves lanceolate-linear, 2–3 x 0.5 cm, ciliate. Sheath 0.5 cm long. Peduncle 10–20 cm long. Panicle 3-4 digitate spikes 4–6 cm long. Spikelets compressed closely imbricate, green with pinkish tinge. Glumes and lemmas thin, apex mucronate, keel scabrous, ciliated.

Flowering: April.

Habitat: Sandy depressions.

Distribution: South and central Qatar, Karaana.

Uses: Good fodder for all animals.

Eragrostis P. Beauv.

Eragrostis barrelieri Daveau. in Morot. Journ. de Bot. 8: 289 (1894).

Annual tufted grass 40 cm high. Leaves linear, 4–5 cm long. Sheath 2 cm, striate with a dark ring at base. Panicles terminal and axillary 15–25 cm long, branchy. Spikelets 1 cm long, 12-16 flowered.

Flowering: April.

Habitat: In saline sandy shores.

Distribution: Common in Qatar; Wakra coast.

Uses: Fodder for animals.


ELEUSINE COMPRESSA
LOLIUM RIGIDUM
DICHANTHIUM FOVEOLATUM
ECHINOCHLOA COLONUM

E. cilianensis Vign-Lutate., in Malpighia, 18: 386 (1904).

Annual tufted 20–30 cm high. Leaves linear lanceolate, 6–7 x 0.3 cm. Sheath 4 cm long, striate, glabrous. Nodes with dark ring. Inflorescence dense panicle, green or pink, up to 13 cm long and 3 cm broad. Spikelets turgid 1 x 0.3 cm, 7-12 flowered. Flowers green or pink.

Flowering: April.

Habitat: Loose sandy soils under Ziziphus and Acacia trees.

Distribution: North of Doha.

Uses: Grazed by animals.

Halopyrum *Stapf.*

Halopyrum mucronatum (L.) Stapf., Hook. 1c. Pl. t. 2448 (1895).

A perennial tufted tussock forming grass up to 1 m high. Branches stout, erect, green or pinkish. Root tubular. Leaves linear, convulate, 15–35 x 0.5, sheath 4–10 cm long. Nodes bearded. Panicle spicate 15–30 cm long with ascending alternate spikelets. Spikelets 2 cm long with 20-30 flowers, awnless.

Flowering: April.

Habitat: Sandy shores.

Distribution: South west in Salwa.

Uses: Fodder and stabilizer of sands.

Henrardia *Hubbard.*

Henrardia pubescens (Bertol.) C. E. Hubbard. in Blumea, Suppl. 3: 19 (1946).

Annual tufted grass 15–25 cm high. Culms erect, branching from base. Lower ones sometimes pinkish. Leaves linear-lanceolate, 5–7 x 0.2 cm, sparsely pubescent. Sheath up to 2.5 cm long, striate, pubescent, auriculate. Spikes terminal, cylindrical, straight or slightly curved up to 10 cm long x 0.2 cm broad. Spikelets many, alternate and appressed to rhachis which continues above glumes and topmost floret. Spikelets lanceolate, awnless with 1-2 bisexual florets. Glumes equal.

Flowering: April.

Habitat: Wet depressions on sand.

Distribution: In central Qatar in rodat; Doha.

Uses: Grazed by animals.

Hordeum L.

Hordeum vulgare L., Sp. Pl., ed. 1: 84 (1753).

Arabic: Shaeer.

Annual erect grass 90 cm high. Culms erect, glabrous, smooth. Leaves linear-lanceolate up to 45 cm long, glabrous, auricles pronounced at leaf base. Spikes 6–10 cm long, 1.5–2 cm broad, yellow. Spikelets all fertile. Glumes linear-lanceolate, produced into a fine scabrid awn. Lemmas 5-nerved, armed with a powerful awn 15 cm long.

Flowering: April.

Habitat: Irrigated soils.

Distribution: Cultivated in rodat.

Uses: Food for man and animals.

Hyparrhenia

Hyparrhenia hirta Stapf. in F. T. A. 9: 315 (1934).

Perennial tufted erect grass up to 60 cm high. Culms erect, glabrous. Leaves linear-lanceolate, rolled or folded, 10–14 x 0.2 cm. Sheath 4 cm long, glabrous. Panicles spathulate up to 30 cm long, reddish. Racemes with white hairs. Awns up to 2.5 cm long, dark brown, bends over once or twice.

Flowering: April–May.

Habitat: Gravelly and stony grounds.

Distribution: Central and western parts, Dukhan.

Uses: Good fodder.

Lasuirus Boiss.

Lasuirus hirsutus (Forssk.) Boiss. Diagn Ser. 2, 4: 146 (1859).

Arabic: Samma, Hada.

Perennial bushy grass up to 90 cm. Culms arise from a woody rhizome. Leaf linear, convolute, 5 x 0.5 cm; ligule hairy. Sheath 6 cm long, covering stem. Spikes silky brittle 10–14 cm long, erect. Spikelets 2-flowered. Lower glume larger than upper, sometimes bifid at tip.

Flowering: April–May.

Habitat: Sandy depressions.

Distribution: Common in southern Qatar.

Uses: Eaten by animals.

Lolium L.

Lolium rigidum Gauin. Agrost. Heluct. 1: 334 (1811).

Arabic: Simbil, Rabiya.

Annual erect grass, 80–100 cm high. Culms geniculate ascending 40–80 cm high, glabrous. Leaves lanceolate-linear, 30 x 1 cm. Sheath striate, pink at base. Inflorescence flattened, stiff, 2-sided spikes. Spikelets 2 cm long, 3-10 flowered, alternate in opposite rows, appressed to the rachis, 3-12 flowered. Upper glume persistent, 5-9 nerved. Lemma awned, 30 cm long. Palea as long as lemma.

Flowering: April.

Habitat: On soft soils in gardens.

Distribution: Occasional in Doha gardens and lawns and moist rodat fields.

Uses: Fodder for animals.

Lophochloa Rchb.

Lophochloa pumila (Desf.) Bor. Grass. Burm. Ceyl. Pak. 445 (1960).

Annual erect herb, 25 cm high. Culms erect, fascicled, glabrous. Leaf lanceolate-linear, 8 x 0.3 cm, ciliate. Panicle spike-like 4–5 cm long, dense often lobed. Glumes hairy, equal, green with scarious margins, pubescent. Lemma awned below the acute tip.

Flowering: April.

Habitat: Low sandy depressions.

Distribution: Rare in gardens.

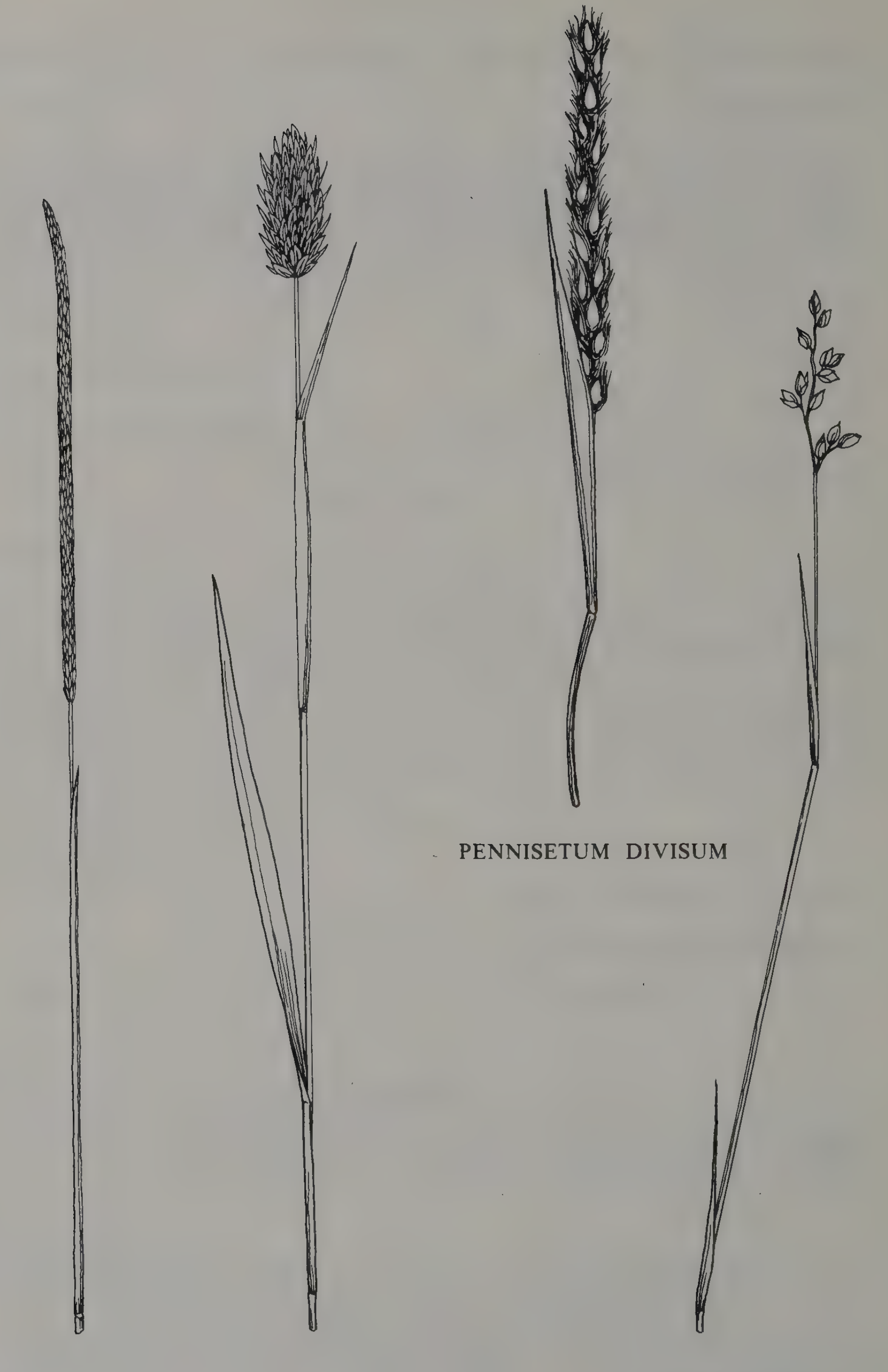
Uses: Fodder for animals.

Panicum L.

Panicum turgidum Forssk., Fl. Aegypt – Arab. 18 (1775).

Arabic: Thumam.

Perennial branchy bush 1 m high. Culms dense tufted with swollen nodes and with large secondary shoots arising from joints. Roots thick, rigid. Leaves linear-lanceolate, 7–10 x 0.4 cm. Nodes brown, prominent. Inflorescence dense up to 10 cm long. Spikelets solitary with scabrid bristles. Glumes membraneous, ribbed. Flowers usually one. Glumes equal.


PENNISETUM DIVISUM
SPOROBOLUS SPICATUS
PHALARIS MINOR
PANICUM TURGIDUM

Flowering: April.

Habitat: Sandy deserts and depressions collecting mounds of sand.

Distribution: Common especially in southern Qatar.

Uses: Good fodder and can be used to stabilise sand dunes. Used also as firewood.

Paspalidium *Stapf.*

Paspalidium desertorum Stapf. in F. T. A. 9: 585 (1920).

Perennial tufted herb 40 cm high with a hard creeping rhizome. Culms ascending on trailing and throwing up leafy branches from the swollen nodes. Sheath terete, tight smooth. Legules reduced to ciliolate rim. Leaf linear 5–25 x 4–6 cm, flat or involute. Inflorescence solitary, terminal or 1-3 at upper nodes, 2.5–15 cm long spikes. Spikelets numerous, ovate to ovate oblong, 3–3.5 cm long, green or tinged with purple. Glumes unequal, 5-nerved.

Flowering: April.

Habitat: Wet irrigated soils on canals.

Distribution: Cultivated fields; North Government farm.

Uses: Grazed by animals.

Pennisetum *L. C. Rich.*

Pennisetum divisum (Gmel.) Henr. in Blumea, 3: 162 (1938).

Arabic: Morrat Ghazal, Theymum.

Tall perennial grass up to 1–1.5 m high. Branches tufted, rigid on woody rootstock like ***P. turgidum***. Sheaths of culms empty, deciduous or persistent on the swollen nodes. Inflorescence cylindrical dense spikes. 10 x 1 cm. Spikelets solitary. Rachis of involucre scabrous with white unequal awns.

Flowering: April–May.

Habitat: Grows on sandy depressions, sometimes associated with ***P. turgidum*** in the same sandy mounds.

Distribution: Common especially in the southern sand dunes.

Uses: Grazed by animals. Can be used as a sand dune fixer.

Phalaris L.

Phalaris minor Retz. Obs. Bot. 3: 8 (1783).

Arabic: Shair El Far, Rashad.

Annual grass 30–50 cm high. Culms erect, glabrous. Leaf lanceolate-linear 10–15 x 0.5 cm. Upper sheath inflated, sheathing the panicle. Panicle ovate-oblong, enclosed on the upper leaf sheath, densely spicate, 4–5 cm long x 1.3 cm. Glume winged with white margin. Lemma one scale at its base (in other species two scales).

Flowering: April.

Habitat: Weed on cultivated soils.

Distribution: Fields and rodat.

Uses: Fodder for animals.

P. paradoxa L., Sp. Pl. ed. 2, 1665 (1763).

Arabic: Shair el Far.

Annual grass up to 1 m high. Culms erect, glabrous. Leaf linear 30 x 0.5 cm. Panicle pink tinged, oblong-ovate, 8 x 2.5 cm, enclosed in uppermost sheath. Spikelets compact, 1 fertile and 5 sterile. Glume keeled with a serrate wing. Lemma with 2 scales at its base.

Flowering: April.

Habitat: Cultivated grounds.

Distribution: Common in gardens and cultivated rodat.

Uses: Fodder for animals.

Phragmites Adens.

Phragmites australis (Cav.) Trin. ex Steud. Nom. Bot. ed. 2, 2: 324 (1841).

Arabic: Ghab, Boos, Hagana, Gassab.

Tall perennial reed swamp grass up to 3–4 m high. Roots rigid creeping rhizomes. Culms erect, 3–4 m high, leafy fistulose. Leaves, lanceolate, flat, acuminate, 20–60 x 2–3 cm, rough. Sheaths striate, 7–10 cm long. Panicles branched, lax up to 30 x 10–15 cm long, brown, finally white-silvery. Spikelets 2-6 flowered, 1.2–1.8 cm long. Rachis ciliate and silky. Glumes unequal, keeled. Lemmas 0.8–1.3 cm, long, glabrous.

Flowering: April.

Habitat: Marshes and near water.

Distribution: Common in southern marshes at Salwa. On sewage water ditches.

Uses: Fodder, thatching, firewood.

Polypogon Desf.

Polypogon monspeliensis (L.) Desf., Fl. Atlant. 1: 67 (1798).

Arabic: Zeit El Gut, Zeit Le Far.

Annual erect grass 60–80 cm high. Culms erect, glabrous in small tufts or solitary erect. Leaves linear-lanceolate 5–20 x 1–1.5 cm. Legules scarious 0.5 cm long. Sheaths usually covering the stems. Panicle dense, compact, green, bristly, oblong-ovate, 10–15 cm long x 1–3.5 cm. Spikelets narrowly oblong, 2–3 mm long, awned, 1-flowered. Glumes, notched at apex, hairy on margin. Lemma shortly awned, 0.4 cm long.

Flowering: April.

Habitat: Moist drains on sandy soils.

Distribution: Gardens and cultivated rodat, Doha, El Khor.

Uses: Fodder for animals.

Schismus P. Beauv.

Schismus arabicus Nees., Fl. Afr. Aust. 422 (1841).

Syn: S. barbatus Thell.

Small annual grass 10–15 cm high. Culms prostrate and erect, tufted, glabrous. Legules hairy. Leaves 10 x 0.2, involute, narrow, pubescent on upper surface. Inflorescence ovoid or oblong-lanceolate, compact, erect panicles, 4 x 1 cm, green to pinkish. Spikelets 5–7 mm long, 5-10 florets on on short pedicels. Glumes equal. Lemma bifid, hairy on lower half.

Flowering: March–April.

Habitat: Sandy soil.

Distribution: Common all over Qatar.

Uses: Grazed by animals.

Setaria P. Beauv.

Setaria verticulata (L.) P. Beauv., Ess. Agros. 51, 178 (1812).

Arabic: Lusseig.

Annual tufted grass 30–60 cm high. Culms branched at base. Leaves linear, 15 x 0.6 cm, pilose. Panicle cylindrical compact spikes, 10 cm long, bristly. Spikelets solitary with 2 florets. Glumes unequal.

Flowering: May.

Habitat: Moist soils.

Distribution: Weed of cultivated land.

Uses: Grazed by animals.

Sorghum Moench.

Sorghum halopense (L.) Pers., Syn. 1: 101 (1805).

Perennial grass up to 2 m high. Culms erect from creeping rhizome. Node silky pubescent. Leaf linear lanceolate up to 30 cm long. Panicle open and spreading, 15–60 cm long, fertile. Spikelets hairy then become smooth. Pedicelled spikelets falling early.

Flowering: April.

Habitat: Cultivated areas.

Distribution: Cultivated fields in central Qatar.

Uses: Fodder.

Sphenopus Trin.

Sphenopus diverticatus (Gouan.) Rehb.

Annual erect grass 15 cm high. Culms tufted, slender often purplish. Leaves linear, 10 x 0.2 cm with acute ligule. Panicle diffuse, repeatedly branched. Spikelets club-shaped at the apex, 2.5 mm long, awnless, 2-7 flowered. Lemmas deciduous. Glumes unequal, persistent. Lemmas 3-nerved, obtuse, deciduous at maturity.

Flowering: April.

Habitat: Salty sandy soils.

Distribution: South Qatar.

Uses: Fodder.


STIPA CAPENSIS
SPOROBOLUS ARABICUS
STIPAGROSTIS PLUMOSA

Sporobolus R. Br.

Sporobolus arabicus Boiss. Diagn. Pl. Or. Nov., ser. 1, 13: 47 (1853).

Annual grass 40–50 cm high. Culms creeping with stolons and erect roots tubular. Legules a rim of hairs. Leaves linear-lanceolate, 10–16 x 0.3 cm, acute, sheath 11 cm. Panicle open spike, pyramidal 20 cm long with branches 2 cm long, whorled on the main stalk. Spikelets lanceolate 0.2 cm long, awned, 1-flowered. Glumes unequal.

Flowering: April.

Habitat: Wet saline soils.

Distribution: Central Qatar, Wakra shore.

Uses: Fodder.

S. spicatus. (Vahl.) Kunth., Rev. Gram. 1: 67 (1829).

Arabic: Sakham, Rashad.

Perennial tufted grass 40 cm long. Branches from creeping rhizomes. Leaves linear-lanceolate, convulute, 6–10 x 0.7 cm, pungent, scabrous on upper surface with prominent parallel veins. Sheaths long 3–4 cm. Inflorescence narrow spike, 6 cm long x 0.3 cm. Spikelets awnless, 1-flowered. Glumes unequal.

Flowering: April.

Habitat: Sandy deserts in salty places.

Distribution: Southern Qatar; Salwa Um Bab.

Uses: Grazed by all animals.

Stipa L.

Stipa capensis Thunb. Prodr. pl. 19 (1794).

Arabic: Summa.

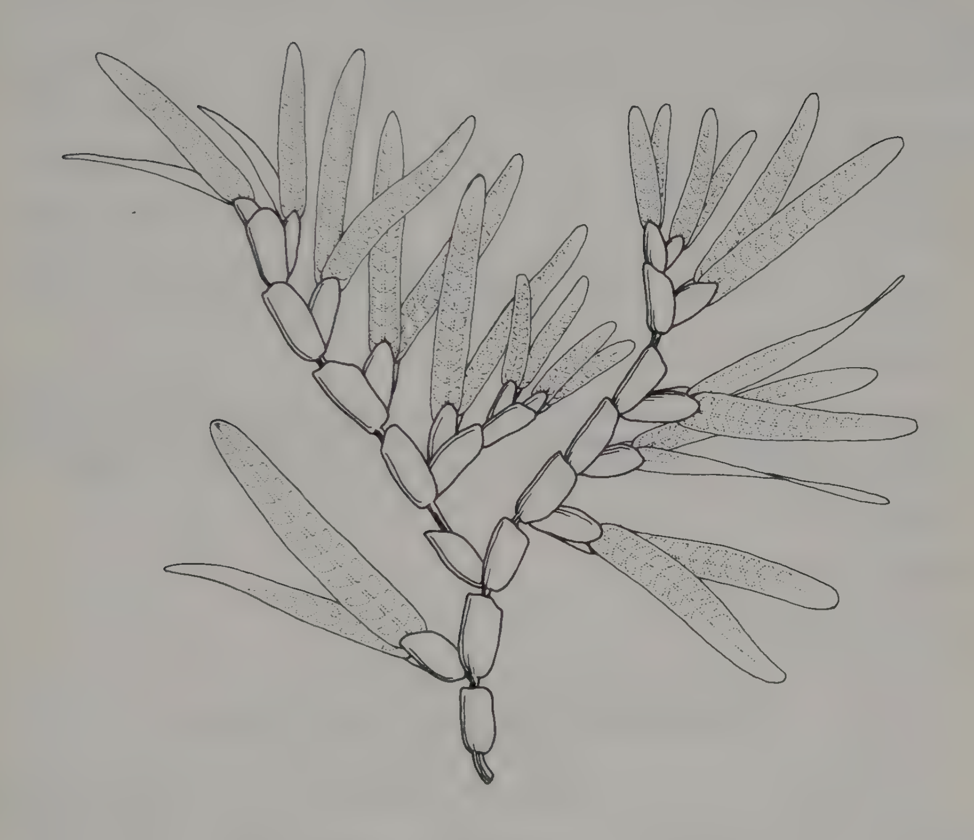
Annual grass 20–40 cm high. Culms tufted, densely branched below. Leaf flat or convolute, 12 x 0.3 cm. Sheath extends to enclose the base of the inflorescence. Panicle 10 cm long, dense. Spikelets 1-flowered, silvery. Glumes equal. Awns 10 cm long, spirally twisted, hairy. Seed triangular, arrow-head, hairy, 0.6 cm long.

Flowering: April.

Habitat: Rodat soils and depressions.

Distribution: Common in Qatar; Um Salal Ali, Dukhan, Karaana.

Uses: Limited grazing by animals, said to be injurious to them.



HALOPHILA STIPULACEA

Stipagrostis *Nees.*

Stipagrostis obtusa (Del.) Nees. Linnaea 7: 293 (1832).

Arabic: Shafshoof, Ainseila, Halta, Nassi.

Perennial tufted grass 30 cm high. Leaves linear 1.2 x 0.3 cm, long-haired on upper surface. Stems glabrous. Inflorescence narrow panicle 6–10 cm long. Awns 3, white, feathery.

Flowering: April.

Habitat: Gravelly depressions.

Distribution: Common in Qatar, Shahania, Dukhan.

Uses: Fodder.

S. plumosa (L.) Munro ex T. Anders., Journ. Linn. Soc. Bot. 5: 495 (1884).

var. ***plumosa*** (L.) Munro ex T. Anders.

Perennial grass densely plumose 20–50 cm high. Roots tubular, white. Stems covered on nodes and internodes with dense white hairs. Leaves curved, linear, 10–12 x 0.2 cm. Panicle 10 cm long. Awns 3, the central 5 cm long, plumose, the laterals naked.

Flowering: April.

Habitat: Gravelly soils.

Distribution: Common in Qatar, Shahania, Salwa.

Uses: Good fodder.

HYDROCHARITACEAE

Halophila *Thou.*

Halophila stipulacea (Forssk.) Asch. Sitz. Nat. Fr. Berlin 3 (1867).

Aquatic marine herb 20–25 cm high arising from a creeping rhizome. Leaves green, soft, alternate, oblong 5 x 1 cm, corrugated on surface, short petioled. Sheath papery white. Flowers in cymose panicle, dioecious. Male flowers with a pedicel, 3 stamens. Female flowers sessile. Perianth 3-merous, differentiated into sepals and petals. Fruit 1-loculed and many seeds. The plant dries into white papery parts.

Flowering: April.

Habitat: Shallow shores associated with ***Avicennia marina***.

Distribution: Collected at El Khor shore.

Uses: Unknown.

JUNCACEAE

Juncus L.

Juncus rigidus Desf.

Perennial tufted stout grass, 30–70 cm high. Rhizome creeping. Culms unbranched, erect stiff and green, cylindrical, terminating into a stiff spine. Leaves absent. Bracts lanceolate, striate, 10 x 1 cm. Inflorescence a lateral cyme, brown, terminal; culm elongated beyond the inflorescence by a tapering culm-like leaf. Perianth 6-segmented. Stamens 6. Fruit a capsule. Seeds with a short white projection.

Flowering: May.

Habitat: Typical marshy saline soils.

Distribution: Wadi El Ireig, Abu Samra, El Dikheira.

Uses: Eaten by camels, also used to make mats.

LILIACEAE

Asphodelus L.

Asphodelus fistulosus L. var. ***tenuifolius*** Cav. (1824).

Arabic: Barwag.

Annual bulbous herb 20–30 cm high. Stem a fleshy underground bulb 2–3 cm diameter with fibrous roots. Leaves linear, fistulose, fleshy, 15 x 0.5 cm. Scape leafless, simple carrying racemes or panicle and flowers. Flowers white with pink bands. Perianth segments free. Fruit 3-locular capsule, brownish red.

Flowering: March–April.

Habitat: Sandy and gravelly soils in depressions.

Distribution: Common in Qatar.

Uses: Grazed by animals.

Dipcadi Medik.

Dipcadi erythreum Webb & Berth., Phyto. Canar. 3: 341 (1848).

Arabic: Mesielmo.

Annual bulbous perennial herb 20–25 cm high. Stem fleshy white, spherical or ovate bulb with fibrous roots. Leaves linear, fleshy, prostrate, 10–15 cm x 0.3–0.5 cm. Inflorescence a raceme, 8-12 flowered one sided. Bracts scarious. Flowers brownish white. Perianth segments 3 + 3 inner ones shorter. Fruit 3-lobed capsule, brown, 2.5 cm diameter. Seeds many black.

Flowering: March.

Habitat: Sandy and gravelly soils.

Distribution: Common in southern and central Qatar.

Uses: Grazed by animals. The bulbs are edible.

PALMAE

Phoenix L.

Phoenix dactylifera L., Sp. Pl. 992 (1753).

Arabic: Nakhl, Nakheil.

Dioecious tree, one stemmed, up to 5–8 m high. Roots fibrous, appear above soil level. Leaves pinnate. Leaflets linear, acute, folder upwards, lower leaflets modified into spines. Rachis stout spiny at base, sheath surrounding stem. Suckers many surrounding the stem base. Leaves form a crown at summit of stem, leaving prominent leaf sheaths at the lower part. Flowers white in a branched spadix enveloped by a brown spath. Peduncle up to 1 m long, yellow-orange. Perianth trimerous, alternate. Stamens 6. Ovaries 3. Fruit a drupe, ovoid to cylindrical with fleshy epicarp. Seeds subcylindrical with a central longitudinal groove.

Flowering: April–May.

Habitat: Usually on deep silty soils but it is found in many habitats.

Distribution: Cultivated all over Qatar.

Uses: Fruits edible, leaves used for ropes, baskets, mats etc. Rachis for thatching, stems for roofing and firewood. Fruits are used for puddings and many other various uses.

TYPHACEAE

Typha L.

Typha domingensis Pers., Syn. Pl. 2: 532 (1807).

Syn: T. angustifolia L.
T. australis Schum. & Thonn.

Arabic: Bordi.

Perennial erect grass up to 3 m high. Rhizome hard. Leaves alternate, linear, sheathed with a sloping scarious margined shoulder, tough, 1–1.5 m x 1–2 cm above and convex beneath, flat, glabrous, acute. Median leaves purple spotted. Inflorescence brown, cylindrical spike, divided by a node, 1–3 cm long, separating male and female flowers. Male spike above, 15–30 cm long. Female spike below 15–20 cm long with flowers of single carpel with long styles and spindle-shaped stigmas.

Flowering: May.

Habitat: Marshy habitats.

Distribution: Ras Ushirig and El Wabra.

Uses: The plant is eaten by goats and cows.

CULTIVATED TREES AND SHRUBS IN QATAR AVENUES, GARDENS, HOUSES & SHELTER BELTS.

Acacia cynophylla
Acacia nilotica ssp. indica
Acacia saligna
Albizzia lebbek
Bougainvillea sp.
Caesalpinia pulcherimma
Casuarina canninghami
Citrus sp.
Conocarpus lancifolius
Cordia mixa
Delonix regea (Poinsiana regea)
Dodonea viscosa
Eucalyptus camaldulensis
Ficus benghalensis
Ficus elastica
Ficus carica
Ficus nitida
Ficus religiosa
Jasminum sp.
Lawsonia inermis
Leucaena glauca
Mangofera indica
Nerium oleander
Nerium indica
Parkinsonia aculeata
Phoenix dactylifera
Pithcellobium dulce
Plumeria indica
Prosopis chilensis
Psidium guajava
Punica granatum
Rosa sp.
Sesbania sesban
Tamarix aphylla
Terminalia catappa
Thevetia peruviana
Vitis venifera
Washingtonia filiform
Ziziphus mauritiana
Ziziphus spina-christi.

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INDEX OF ARABIC NAMES

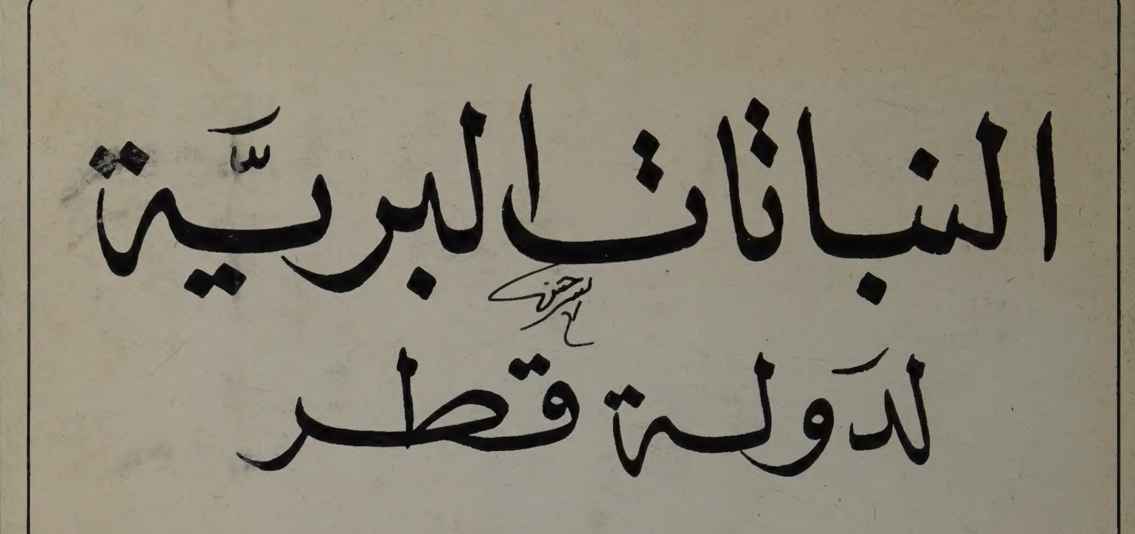
Calendula arvensis	زبيد
Calendula tripterocarpa	زبيد
Capparis spinosa	شفلح
Carduncellus eriocephalus	لوميا
Cassia italica	حشرق ـ سنمكة
Cenchrus ciliaris	سبط
Centaurea sinaica	مرار
Chenopodium album	شولة
Chloris barbata	خزمزم ـ صميمة
Chrozophora tinctoria	تنوم
Chrysopogon plumulosus	هلتا
Cistanche phelypaea	ذنون
Citrullus colocynthis	شرى ـ حنظل
Convolvulus arvensis	عليق
Convolvulus piloselliefolius	ملبو ـ حظمى
Corchorus depressus	ملوخية البر
Corchorus olitorius	ملوخية
Corchorus trilocularis	ملوخية البر
Cornulaca monocantha	ثلج
Cressa cretica	نديوة
Cucumis prophetarum	شرى ـ حنيظلان
Cymbopogon commutatus	صخبر
Cynodon dactylon	نجيل
Cyperus conglomeratus	ثدى ـ رشا ـ عندب
Cyperus laevitus	ثدى ـ رشا ـ عندب
Cyperus rotundus	ثدى ـ رشا ـ عندب
Dactylactenium aegyptium	نجم
Dipcadi erythreum	مصيلمو
Echinochloa colonum	مديد ـ دفرة
Eleusine compressa	صنيم ـ حمرة
Emex spinosus	حنزاب
Ephedra foliata	علدا
Eragrostis barrelieri	تيراب
Eragrostis cilianensis	تيراب
Erodium glaucophyllum	كرش ـ حماز
Erodium laciniatum	حماز
Eruca sativa	جرجير

Euphorbia granulata	لبينة
Euphorbia hirta	لبينة
Euphorbia prostrata	لبينة
Fagonia bruguiera	شجار ضريمة
Fagonia glutinosa	شجار ضريمة
Fagonia indica	شجار ضريمة
Fagonia ovalifolia	شجار ضريمة
Filago desertorum	قطينة
Foeniculum vulgare	شمار
Francoeuria crispa	جثجاث
Frankenia pulverulenta	مليح
Gastrocotyle hispida	رمس عنبصيص
Glossonema edule	عتر ـ جراوة
Halocnemon strobilaceum	سبت ـ حضادى
Halopeplis perfoliata	خريز
Haloxylon salicornicum	قظا
Hamada elegans	رمث
Helianthemum kahiricum	رقروق
Helianthemum lippi	رقروق
Heliotropium bacciferum	رمرام
Heliotropium ramosissium	رمرام
Herniaria hirsuta	عش شولة ـ ربلد
Hippocrepis bicontorta	أم القرين
Hippocrepis constricta	قليقلان
Hippocrepis multisiliquosa	قليقلان
Hyparrhenia hirta	غرز
Lasuirus hirsutus	ضعة
Launaea capitata	حوا
Launaea cassiniana	عقيد
Launaea mucronata	مرير
Launaea nudicaulis	حوا
Launaea procumbens	مرير
Leptadenia pyrotechnica	مرخ
Limonium axillare	قطفا
Lolium rigidum	سمبل ـ ربيعة
Lotus glinoides	حوربيث
Lycium shawii	عوسج

Malva nicaeensis	خبيزة
Malva parviflora	خبيزة
Matricaria auriculatum	زفيرة ـ دقيقة
Medicago laciniata	نفل
Medicago sativa	برسيم ـ جت
Melilotus indicus	حندقوت
Mesembryanthemum forskahlei	سمح ـ غاسول
Moltkiopsis ciliata	حلمة ـ غبشة
Neurada procumbens	سعدان ـ سعيدان
Ochradenus baccatus	قرضى
Panicum turgidum	ثمام ـ ابو ركبة
Pennisetum divisum	ثيموم
Phalaris minor	رشا ـ شعير الفار
Phalaris paradoxa	رشا ـ شعير الفار
Phoenix dactylifera	نخيل ـ نخل بلح
Phragmites australis	قصب ـ غاب
Picris radicata	حوذان
Plantago amplexicaulis	دتل ـ ربل
Plantago ciliata	دتل ـ ربل
Plantago coronopus	دتل ـ ربل
Plantago lanceolata	دتل ـ ربل
Plantago ovata	دتل ـ ربل
Polycarpaea repens	دقيقة
Polycarpaea spicata	دقيقة
Polygonum bellardi	غرداب
Polypogon monspeliensis	ذيل القط
Portulaca oleracea	برجير ـ رجلة
Pulicaria crispa	جثجاث
Raphanus sativus	فجل
Rhantarium eppaposum	عرفج
Rumex cyprius	حميض
Rumex dentatus	خلة
Rumex vesicarius	حميض
Salsola baryosoma	خريط
Salsola vermiculata	فريط
Salvia aegyptiaca	نعام ـ نعيم ـ رعل

Savignya parviflora	جرجيس
Scrophularia deserti	نعام ـ زيتة ـ عفينة
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Sonchus oleraceus	عضيد
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Stipagrostis plumosa	هلتا
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Suaeda vermiculata	سويد
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Tamarix passerinoides	أثل
Tamarix rosmarinus	أثل
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Teucrium polium	جعد
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Trigonella monantha	قطيفة
Trigonella stellata	قطيفة
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Vicia monantha	خريج
Zilla spinosa	شجا ـ سيلا
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Ziziphus mauritania	سدر ـ كنار
Ziziphus spina-christi	سدر ـ نبق
Zygophyllum quatarense	هرم
Zygophyllum simplex	هرم ـ ام ثريب





النباتات البرّيّة لدولة قطر



المنظّمة العربيّة للتنمية الزراعيّة
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